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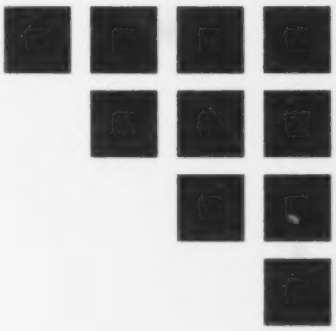


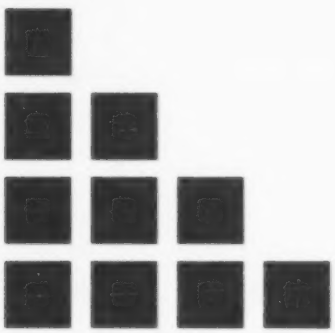
Policy Research Issues for Canadian Youth: School-Work Transitions

R-01-4-1E

by
Victor Thiessen

June 2001

Research Paper



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Victor Thiessen
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Abstract

This paper summarizes the post-1995 school-work transitions literature on Canadian youth. Its objective is to provide information on emerging and ongoing policy issues such as post-secondary participation and employment patterns, skill development (including information technology), and youth entrepreneurship. The literature reveals much progress in understanding the patterns and consequences of school leaving, post-secondary educational participation and subsequent labour market outcomes. It is encouraging that throughout the 1990s, increasing proportions of Canadian youth completed their high school education. Yet the trend of increasing participation in all types of post-secondary education has plateaued and part-time enrolments have declined in the last several years. At the same time, the returns to education, especially university education, continue to be high.

The role of schools in facilitating learning among lower-performing students is a critical factor, since provincial variation in educational performance is due primarily to the proportion of students achieving at the bottom end. Notable improvements in Aboriginal educational attainments have been documented over the past decade, yet the gap in educational achievement between Aboriginal and non-Aboriginal young people is widening rather than narrowing. Also of considerable concern is that the education gap between youth from advantaged and disadvantaged family backgrounds is widening.

On the whole, young women are better prepared than young men for making successful school-work transitions. They perform better academically, find school more enjoyable, are more likely to complete high school, are more likely to see the relevance of higher education to their occupational aspirations, achieve substantially higher levels of skills in reading/literacy (and only slightly lower levels in mathematics and science) and are more likely to pursue post-secondary education. Yet in almost all respects, women's subsequent labour market outcomes are inferior to those of comparable males.

Youth labour-market outcomes deteriorated in the last decade of the 20th century, including labour-force participation rates, unemployment rates, incidence of working in non-standard (employment relation) jobs, and earnings. These outcomes indicate a necessity to improve both the number and especially the quality of entry-level jobs. In this context it should be noted that over half the young people state they would rather be self-employed than work for an employer. Yet less than one in every ten is self-employed. The reasons for this large gap between preference and implementation have not been researched. This lacuna needs to be redressed and policy initiatives might fruitfully be explored to make implementation of these preferences more likely and more successful.

There is a need for research that permits greater emphasis on contextual—especially school and community—effects. Research emphasizing individual, familial, school, and community social capital and using multi-level multivariate techniques has made promising advances in our understanding of structural impediments and facilitators in school-work transitions.

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Foreword

This document is part of a short research paper series developed in 2001, and commissioned by the Applied Research Branch of Human Resources Development Canada (HRDC). The series focuses on various elements of Canadian youths' experience of school-work transitions. It was developed to add to ongoing discussions surrounding HRDC's youth research strategy.

1. Introduction

This paper summarizes the school-work transitions literature with a particular focus on Canadian youth. Existing empirical findings on Canadian youth in the broader context of school-work transitions are provided. A key objective of the paper is to provide information on emerging and ongoing policy issues such as post-secondary participation and employment patterns among youth, skill development, the relationship of youth and information technology, combining school and work, youth entrepreneurship, and disadvantaged ("at risk") Canadian youth. Another important objective of the paper is to outline and discuss relevant policy research questions, emanating from the literature and the empirical findings that are reviewed.

The literature on school-work transitions is voluminous and cannot be done justice in this review. Several criteria have been used for deciding which works are to be included and in what detail. First, Krahn (1996) provides a thorough review of the literature on this topic up to 1995. For this reason, this report emphasizes the literature that has appeared since the mid-nineties. Second, this review is concerned mainly with the empirical literature. Hence most opinion and discussion pieces are not reviewed, except where they have a direct and important bearing on policy issues. Third, much research not done in the Canadian context is ignored if relevant Canadian data is available. Fourth, research based on national data sets are discussed in greater detail, and given greater weight in instances where conflicting findings are reported, than are less representative ones. Likewise, findings from longitudinal data sets, regardless of whether they are nationally representative or not, are given greater weight than are cross-sectional studies. As will become apparent, it is vitally important, especially with respect to policy considerations, to distinguish selection from outcome effects. This can only be done with longitudinal designs, since they permit one to control for prior outcomes.

1.1 Definitions

1.1.1 Youth

By convention in Canada and many other countries, especially those belonging to the Organization for Economic Cooperation and Development (OECD)"youth" is bounded by the ages of 15 and 24. Except where otherwise noted, this is the age group referred to when the term "youth" or "young people" is used in this report. Obviously, youth are not a homogeneous group,

especially with respect to the nature of their school-work transitions. It is increasingly recognized that "the universal term youth masks significant and enduring inequalities among groups of young people" (Wyn 1996:21). Clarifying the most important sources of diversity and specifying more precisely their impacts on youth transitions is a main focus of this paper.

One important distinction is gender. When gender comparisons are being made, the terms "young women" and "young men" also refer to this age group. A second, perhaps even more important distinction concerns age. The term "teenage" will be used to refer specifically to the 15-19 year old group and the term "young adult" is reserved for those in the 20-24 year old group. Familial background (parental education and occupation), ethnicity/race, and geographic location (province, rural-urban residence), are additional sources of variation that need to be considered.

1.1.2 School-work transitions

At the societal level, OECD provides a useful working definition of school-to-work transition as the period "commencing in the first year of age at which fewer than 75 percent of the population are in education and as ending in the first year of age at which 50 percent of the population are in the work force but not in education (Council of Ministers of Education, Nova Scotia Department of Education and Culture et al. 1998:8)." By that definition, the transition period in 1984 spanned the age from 16 to 21; in 1994, the starting age was the same, but it took two years longer than in 1984 (Organisation for Economic Cooperation and Development 1996:41-53). This is of course due to youth's increasing participation in full-time post-secondary education during that time period.

At the individual level, the spheres of education and work are no longer clearly demarcated, with many young people combining both activities and with increasing transitions from work back to schooling. Transitions between education, leaving the parental home, work, marriage, and parenthood are increasingly varied in their sequencing, extent of co-occurrence, and duration of time intervals between them (Thiessen and Looker 1999; Shanahan 2000:667). The nature, timing, and sequence of previous transitions constrain or facilitate later positive outcomes. Although transitions occur at discrete time points, they are better conceptualized as processes that result in particular pathways or conditional trajectories that lead to different outcomes.

For increasing proportions of young people, the transition period from education to initial full-time work extends well beyond the age of 24. This has led some to recommend increasing the upper age limit of the definition of youth to 29. Although there is some merit to this viewpoint, most research to date is based on the traditional definition and hence less is known about the nature of the transition factors that are particularly salient for those in the 25-29 year-old bracket. Greater attention needs to be focused on this age group in future analyses, especially on the transition from work back to education.

Two important considerations arise from such variability. First, it is necessary to understand the reasons for the diversity. Some researchers believe that individualization of transition decisions is the main reason for the increased variability; that is, structural and institutional guidance and support for an individual's choice has decreased (Beck 1992). Others place more emphasis on economic factors, especially the nature of the youth labour market (Morris and Western 1999). Both reasons may be at work, but they have different implications for social policy. Second, such variability means that social policy in any domain of youth is confronted with an extremely diverse clientele, who are at different stages in their life course, with different personal needs and social responsibilities. This makes the development of effective social policy especially challenging, since it must be cognizant of, and appropriate to, this diversity. The fact that these transition trajectories have become substantially more varied in the past quarter century also means that unraveling the influence that prior transitions have on subsequent outcomes is much more complicated now. At the same time, some of the major sources of the diversity are now sufficiently well understood to permit some broad conclusions about the policy issues.

1.2 Canadian educational-occupational linkages in comparative perspective

Educational institutions are the foundry in which school-work transitions are formed. It is therefore important to understand the characteristics of these institutions and their links to the world of work. These can be seen best by showing them in a comparative perspective. Two features of the Canadian educational links to occupations are noteworthy for understanding school-to-work transitions in Canada. The first is the extent to which educational credentials signify occupational qualifications. The second is how closely educational and labour force institutions work together to manage these transitions. Like the U.S., Canada scores low on both types of links, compared to other industrialized countries. Kerckhoff (1996:39-40) describes the

educational-occupational links for the U.S., which apply equally well to the Canadian situation. A first characteristic of these links is that the Canadian educational system is much less stratified than in most other industrialized countries, so that more students, regardless of their academic performance, are encouraged to pursue higher education in Canada than in other OECD countries. A second feature is that the Canadian educational system is highly decentralized, with consequent high variation in the types of programs offered at any given school, including work experience opportunities. This also hampers efforts to standardize testing, resulting in uncertainty about the actual level of performance of the students. Third, only very general credentials such as a high school diploma, certificates or diplomas from post-secondary educational institutions or a university degree are offered, rather than finely-differentiated credentials that are available in many European countries. The direct consequence of this is a lower ability of Canadian educational institutions to channel students into specific niches in the labour market. Instead, internal sorting mechanisms within school become especially important for subsequent school-work transitions. These sorting mechanisms are both the levels (or streams) at which courses are taken (academic versus general) and marks obtained, especially in science, mathematics and English/French literature. Finally, since there are few formal linkages between schools and employers, students upon leaving school must usually find jobs on their own.

At the point in time at which a transition from school to full-time work is made, the Canadian system produces two groups whose likely future labour force experiences are relatively clearly understood. The first group comprises those who leave education without graduating from high school. This group cannot successfully compete for good jobs in today's labour market and therefore can be described as having made unsuccessful school-to-work transitions. It is this group that, in part, constitutes the "at risk" group, and the factors that lead to this outcome must be thoroughly understood. Clearly, social policy must address this group in an effort to minimize its size and to reverse their deteriorating labour market outcomes. At the other end are the university graduates, whose future success in the labour force, although not guaranteed, is currently not problematic. The main policy concern for this group is to ensure that they have the requisite skills to keep Canada at the leading edge of productivity in their knowledge-intensive occupations. The majority of young Canadians, however, fall in-between these two groups. They have completed high school and some may attempt to make the transition to work directly after

that; others may attend a variety of non-university post-secondary institutions, either successfully obtaining a diploma or certificate or not; still others may attempt university but fail to obtain a degree. This is obviously a very heterogeneous group and perhaps precisely because of its heterogeneity, the nature of their school-work transitions are not well understood.

To a large extent, the increasing heterogeneity of school-work transitions detailed in the previous section can be traced to three factors in the Canadian context: (1) the expansion of educational opportunities; (2) the stratification of educational institutions among class-related ability groupings; and (3) the weak coupling of educational institutions with labour markets (O'Rand 1996: 5).

1.3 Approaches to the study of school-work transitions

As researchers came to appreciate the complexity of school-work transitions, they also recognized the limitations of the earlier frameworks used to investigate these transitions. It became apparent that the human capital model underpinning the earlier studies, valuable though it may have been, was inherently limited in its capacity to understand and unravel the policy implications of the changing nature of school-work transitions. As a consequence of this, more recent investigations increasingly rely on three inter-related perspectives: developmental psychology, life course analysis, and capitalization theory.

Developmental psychology informs this research by sensitizing researchers to the developmental tasks that are particularly salient during adolescence. The seminal work of Erikson (1968) argues that autonomy, as well as occupational and gender identity, are the key developmental tasks during this stage. Much of the recent work accepts and builds on this insight. With respect to school-work transitions, the developmental psychology perspective has as one of its main concerns the possibility of "premature" adult roles (such as heavy work involvement while still in high school) or the lack of appropriate adult roles (long spells of inability to find employment upon completing education). Winefield et al. (1993), for example, embrace this approach and conclude that most of their findings on the impact of unemployment are consistent with it. Similarly, Frone (1999) reviews the empirical literature from this perspective.

Although developmental psychology and life course approaches are quite distinct, implications from the two perspectives often reinforce each other when the topic is school-work transitions.

Lowe and Krahn (1999:203) advocate integrating school-work transitions into a life course perspective to better understand youth unemployment. They believe that such an integration "embeds youth labor market activities and experiences in the complex developmental processes of attaining economic independence and becoming integrated into society as adults. Second, it integrates individual developmental issues within the profound structural changes that recently have transformed labor markets." Note the fusion here between developmental tasks and life course position. Like developmental psychology, the life course perspective emphasizes the inter-connections between the timing and sequencing of any one transition on all subsequent transitions, using however metaphors such as trajectories and pathways rather than developmental tasks. Fundamental to this perspective is that individuals make decisions about future transitions in light of the values and aspirations they hold, the information available to them (regardless of its accuracy), and the opportunities and constraints imposed both by their position in the social structure of their society as well as by the previous choices they have made (Anisef, Axelrod et al. 2000). The life course perspective examines the interplay among selection, opportunity structure, and time (O'Rand 1996:8). It recognizes the importance of selection effects in emphasizing that earlier outcomes constrain later choices.

The capitalization perspective starts with the recognition that humans unequally acquire, accumulate, convert and deplete various types of capital (physical, human, cultural and social) over their life course (see Coleman 1988; Hagan, MacMillan et al. 1996; Hagan 1998 for elaborations and applications of this approach). Physical capital, referring to tools and machinery used for economic production, is generally ignored in school-work transitions literature. Owning a computer and having high-speed access to the internet are examples of physical capital. Economists stressed the importance of human capital, referring to the skills and knowledge acquired through education and training, and this emphasis has remained the focus of most of their contributions to understanding school-work transitions. Much is known about the role of human capital in school-work transition processes. More recent is the emphasis on cultural and social capital, and consequently less is known about the specific ways in which these forms of capital facilitate and impede successful school-work transitions. Cultural capital consists of highly valued knowledge that is expressed in an appreciation of activities such as opera, classical music, theatre and literature. This type of capital is particularly dependent on parental levels of education, since parents provide early exposure to such activities. Finally, social capital refers to

the networks of relationships which connect individuals to peer groups, extended families, communities, organizations and labour markets. They constitute the resources by which individuals obtain access to specific information channels, a sense of mutual obligation/ trustworthiness and appropriate norms, values and behaviours. Ever since Coleman's (1988) seminal article on social capital, research on school-work transitions has documented the importance of familial and community-based social capital in young people's transition experiences. The emphasis on social capital was a necessary and useful correction to the over-emphasis on youth's own characteristics as determinants of transition outcomes. It is now known that parental social capital, such as being integrated into a strong help network or seeing close friends frequently, remain significantly related to youth outcomes even after controlling for youth's earlier transition outcomes (Furstenberg and Hughes 1995).

1.4 Policy goals

Policy issues emerge in the context of the overall policy goals, an understanding of the potential and actual barriers that impede progress in reaching those goals, and an assessment of the effectiveness of various institutions, programs and initiatives that are implemented to achieve the goals. With respect to policy goals, the Labour Market Ministers of Canada, working with officials from the federal, provincial and territorial governments, forged a consensus in March 1998 to:

- Create opportunities for all youth to develop the skills and knowledge needed for work;
- Increase work opportunities for youth;
- Help youth respond to the changing nature of work; and
- Address the cultural and social barriers that may prevent youth from working. (Human Resources Development Canada 2000:11).

Not surprisingly, given the institutional mandate represented by this group, all four policy goals stress the fundamental importance that youth work. Evidence on the extent of youth unemployment in Canada nevertheless warrants this emphasis. Although the youth unemployment rate has decreased substantially from a high of 17.1% during the 1991-1992

recession to 12.6% for the first six months of 2000 (Labour Force Survey, Statistics Canada), it is nevertheless currently more than double that of adults aged 25-54 years. The downward trend since 1975 in both the youth-to-adult unemployment ratio and youth's share of unemployment relative to their share of the labour force stopped with the 1991-92 recession and began to rise thereafter (Kerr 1997).

Youth unemployment is a problem in most industrialized countries. It is considered one of the "major problems" facing the European Union, where the average unemployment rate of young people "is virtually double the overall rate (21.5% compared with 10.7% in 1995)" (European Commission 1999:16). In light of the persistent prevalence of youth unemployment, this formulation of the policy goals serves as a reasonable starting point for framing the policy issues in school-work transitions. The appropriateness and adequacy of these policy goals can be assessed on the basis of the review of the literature conducted for this report.

1.5 Youth in demographic and labour market profile

1.5.1 Demographic profile

To a considerable extent, the nature and severity of youth's school-work transitions arise from demographic factors. Most important is the size of the youth cohort, which is a function of fertility and immigration/emigration patterns. The Canadian fertility rate has been declining ever since Confederation, except for the post-war "baby boom" period, defined as the cohort born between 1946 and 1964 (Venne 1996). The period from 1967 to 1979 is sometimes known as the "baby bust" period, while the offspring of the baby boomers, who produced a noticeable increase in the population and who are now entering the labour market, constitute the "baby boom echo." This echo effect is the reason that Statistics Canada projects a small increase in the size of the youth cohort over the next decade.

1.5.2 Labour market profile

The "driver" of the "new economy" is intangible assets. In the words of Betcherman and McMullen (1998:2) "knowledge generation, innovation, networking capabilities, the ability to invent new products, research and development--these are the intangible factors that increasingly determine economic success for individuals, for firms, and for communities, regions, and entire nations." The impact of this is seen in the sectoral change in job growth and decline. The

software industry, although relatively small, showed the highest growth rate between 1988 and 1996 (7.9% annually). By the mid-1990s, it was estimated that almost half of all employees in Canada were regularly using computers in their job (Betcherman, McMullen et al. 1998:15). Canadian census data show that in the quarter century between 1971 and 1996 occupations in which the main function is to produce knowledge grew at just over twice the rate as the average growth in overall employment (4.1% versus 2.0%, respectively). The inescapable conclusion from this is that human capital development is important now, and will be even more important in the future. It is therefore encouraging to note that increasingly higher proportions of young people are enrolled in educational institutions. As one example, in 1989 52% of youth were in school, compared to 60% in 1996 (Kerr 1997:4).

It is generally thought that the 1990s witnessed a decline in low-skill work. It is clear that there are now fewer traditional blue-collar jobs, both relatively and in absolute numbers (Betcherman, McMullen et al. 1998:11). In that decade, clerical occupations also showed the largest decline of all occupations (Betcherman, McMullen et al. 1998:11). This has led most observers to conclude that there has been a general upskilling trend, brought on by technological change. Nevertheless, there is also continuing concern over polarization of jobs in the youth labour market. For example, the "traditional services, where relatively low-skilled jobs dominate, account for the largest proportion of service jobs and have actually increased their share of total employment over the past two decades" (Betcherman, McMullen et al. 1998:11).

As Lowe and Krahn (1999:207) point out, "Canada and the United States are unique in having well-developed labor markets for high school and college students, mainly in lower-level retail and personal service industries." One consequence of this is that about half of all students aged 17-19 are also gainfully employed in the labour market, with more than a quarter of such teenagers employed more than 20 hours per week (Sunter 1992). Nevertheless, in recent years it has been quite difficult for both teenagers and young adults to obtain work experience; the percentage of 17-19 year-olds without any experience in the labour market tripled to 26% between 1989 and 1998 (Human Resources Development Canada 2000:22). The comparable figure for those aged 20-24 years was 8%.

According to Labour Force Surveys, youth employment dropped from 2,400,000 to 2,042,000 in 1992 and then increased somewhat to 2,269,000 in 2000. In terms of employment growth, this

translates to a shrinkage of –8.1% for the year ending 1990 to a growth, for the first time in that decade of 5.9% in 1998. The core worker (25-54) rate showed small growth in all years.

Youth's labour force participation rate dropped from 69.8% at the beginning of the decade to a low of 61.4% in 1997 and then increased again to 63.9% in the first half of 2000. Archambault and Grignon's (1999) study estimates that half of this drop can be attributed to poor labour market conditions. This report suggests that the drop in participation is likely temporary, on the assumption that the labour market conditions will improve. The youth employment rate shows the same pattern as the participation rate, dropping from 61.2% in 1990 to 51.5% in 1997, then back up again to 55.9% in the first half of 2000.

Youth unemployment rates generally mirror those of adults, except that they are much higher (about double) and more volatile, being affected by economic cycles. This rate shows greatest susceptibility to economic downturns; it started at a pre-recession (1990) low of 12.4%, rapidly rose to 17.1% in 1992, stayed at this level in 1993, fluctuated between 15.2% and 16.2% for the next few years and then dropped to 14.0% in 1999 and to 12.6% in the first half of 2000.

A main reason for the volatile youth unemployment rate is the salience of seniority considerations in layoffs. Kerr (1997:2) suggests that one reason for the high youth unemployment rate is "the higher tendency of young employed workers to leave the labour force, thereby reducing the size of the youth labour force relative to the number of unemployed youth. This weaker attachment to the labour force is estimated to be the most significant gross flow contributor to the gap between youth and adult unemployment rates."

Unemployment rates are generally higher among young men than among young women, a differential of about 4.1% during the period 1990-1997 (Kerr 1997:3). This gender unemployment gap among youth appears to be widening, since the differential was 40% smaller during the 1980s.

The ratio of part-time to total employment for youth increased from 36.7% to 44.6% during the 1990s. This is not a function of increasing numbers staying in school full time, since, for those not in school full-time, this ratio increased from 12.5% to 20.3% in that decade. For half of them, the part-time work was involuntary (Human Resources Development Canada 2000: 19). It should also be noted that, since 1993, this ratio has been quite stable, showing no increase at all,

with most of the previously mentioned growth concentrated in the previous five-year period. No explanations for either the growth spurt or the consequent stability have been provided. For adults there was only about a 1% increase in this ratio during that time period.

Among 15-29 year olds, self-employment rates during the 1990s showed no substantial change, increasing slightly from 6.4% in 1990 to 6.9% in 1999. Almost all self-employment was in the service sectors.

Youth earnings relative to those of adults started falling from the 1970s through the early 1980s in a number of OECD countries. The usual explanation for this was the increased youth labour supply as a result of the baby boom. However, the decline continued, albeit at a slower pace, in the 1990s when the youth demographic situation had changed markedly, leading to the conclusion that there has been a genuine worsening of youth earnings relative to those of adults.

The 1990s recession signaled two important developments. First, it had "a particularly severe impact on youth compared to the early 1980s recession" (Betcherman and Leckie 1997:7). Second, it introduced an apparent uncoupling of economic cycles from youth labour market recoveries. One indicator of this is that the gap between youth and adult unemployment rates is decreasing much more slowly than in earlier recessions (Betcherman and Leckie 1997:10), although there are indications that the youth unemployment rate is now on the mend, with a small increase in employment rate of youth starting in 1997 (Bouchard 2000:30).

A second type of uncoupling may also have occurred, namely that between economic cycles and participation in post-secondary education. In the past, there appears to have been a push-pull relationship between these two spheres: low unemployment rates seemed to pull young people into the labour market while high unemployment rates pushed them back into post-secondary educational institutions. This no longer seems to be the case, at least with respect to university education, since the recent flattening of university participation rates coincides with a period of high youth unemployment rates (Bouchard 2000:29).

The restructuring of Canadian corporations has led to a "(f)lattening of the corporate structure" resulting in "a decline in mid-management positions and a related decline in promotions" (Venne 1996:49). This means that current youth are less likely to follow a linear career path within one organization, and relying more on switching employers to fulfill their career aspirations.

2. High school completion

The changes that have accompanied the new global economy convincingly show that a high school completion certificate is the basic minimum requirement for participation within that economy. Skill upgrading is occurring in many occupations as evidenced by the fact that the number of jobs requiring high school or less grew only half as fast as those requiring more education (Human Resources Development Canada 2000:14). It is therefore not surprising that the Labour Force Surveys from Statistics Canada show the unemployment rate for young people who are not full time students to be consistently above 25% in the 1990s, compared to generally less than half that rate among their counterparts who have participated in post-secondary education (Human Resources Development Canada 2000:21). Other OECD countries paint a similar picture. For example, results from a New Zealand longitudinal study of a cohort born in 1972-73, show that a high school completion certificate produces a 17.4 percent net decrease (controlling for parental occupational status, reading achievement, school involvement and self-reported delinquency) in the probability of experiencing unemployment by the age of 21 (Caspi, Wright et al. 1998:437). As will be shown later, even high school completion may not be enough.

A high school completion certificate is the minimum requirement for admission to most post-secondary institutions. For this reason alone, it is especially important to put in place policies and initiatives that increase high school completion rates. The trend in high school completion rates is encouraging, with ever-increasing high school completion rates. Labour Force Surveys document that the proportion of those aged 20-24 who have not completed high school and who are not students dropped from 17.1% to 11.9% between the start and end of the 1990s.

Part of the reason for the high completion rates is the "second chance" nature of secondary education in Canada. That is, although the 1991 School Leavers Survey (SLS) documented that about one in every four students drop out of high school, only 18% fail to complete high school by the age of 20 (Gilbert, Barr et al. 1993:16). Additionally, the 1995 School Leavers Follow-up Survey (SLF) showed that only 15% of young people had not completed high school by the age of 24 (Gilbert and Frank 1998:10).

Since it is vitally important to at least complete high school, it is imperative that the patterns and factors associated with high school leaving are clearly documented and understood. On this basis, policies and initiatives could be targeted at those young people at risk of not completing their high school. Given the high educational aspirations young people in Canada have, it is unlikely that the decision to leave high school is part of a well-thought out or stable plan. That is, leaving school is a decision that appears to be counter to youth's expressed educational desires. Hence it is important to understand the circumstances that lead youth to nevertheless exit high school prematurely. Since not all youth are equally at risk of not completing high school, this section first notes the main patterns of high school leaving, followed by a close examination of the reasons for those patterns.

It is well established that academic performance, Aboriginal and ethnic status, gender, household composition, parental socio-economic background and province/region of residence pattern school leaving rates. Specifically, male students, with poor academic performance, Aboriginals (and certain other ethnic/racial groups), growing up in single-parent households, of lower socio-economic status, and residing in the Atlantic provinces are less likely to complete high school. These patterns are themselves interconnected. As one example, single-parent households are disproportionately concentrated at the lower end of socio-economic conditions and both of these factors affect academic performance. In attempting to unravel how these objective patterns came to be, powerful subjective dynamics and experiences will be shown to be intimately implicated. Understanding how the school leaving patterns arose is of crucial significance in deciding what policies and initiatives might reduce the unwanted variations.

2.1 Factors associated with high school leaving rates

Certainly the less-impressive educational attainments among some sub-groups that will be documented in the next section are not primarily due to young people failing to see the value of education. It must be kept in mind that young people start with very high educational aspirations. Almost all expect to complete high school, presumably recognizing that high school completion is the minimal requirement for entry into the labour market. Perron (1996), for example reports that 94% of French-speaking students in grades 8 to 12 expected minimally to complete high school, a figure which is comparable to the one Looker (1997: 10) reports for Nova Scotian 17-

year olds. The reasons for the failure of some to obtain an education adequate for the jobs they hope to obtain must be sought in other quarters.

2.1.1 Academic performance

Not surprisingly, poor academic performance bears the strongest influence on the decision to leave school. Poor marks do not compel one to leave school, since at worst they simply require one to repeat a grade. Hence it is reasonable to assume that students whose academic performance is poor use their marks as a strong signal that continuing their education will not improve their labour market outcomes. Perhaps students who receive low marks change their minds about the value of education, concluding that it will not pay off with respect to their occupational futures. This would arguably be a wrong conclusion for them to arrive at. Future research needs to assess whether this is indeed what happens. If so, a policy issue is how to ensure that students with low marks continue to see the relevance of education for their future labour market outcomes. The role of career counselors and school-sponsored work experience programs are relevant to this point and will be discussed in greater detail later.

2.1.2 Aboriginal status

It is well known that the educational attainments of Aboriginals are substantially lower than among non-Aboriginals. Armstrong et al. (1990) for example, report that First Nations people of Canada are twice as likely as other youth to be high school leavers. In their submission to the Special Chiefs' Conference on Education, the Assembly of First Nations reports that 50% of First Nations individuals in Canada fail to reach grade 12 (Assembly of First Nations 1991).

The 1986 and 1996 Canadian Censuses show notable improvements in Aboriginal educational attainments (all statistics in this paragraph are reported in Tait 1999). During this time period, the proportion of Aboriginals with less than a high school diploma dropped from 60% to 45%. The proportion obtaining a college diploma or certificate increased from 15% to 20% and with a university degree from 2% to 4%. Among 20-29 year olds no longer attending school, 51% had less than secondary education, compared to 23% among non-Aboriginals. Métis had higher educational achievements, which the author attributes to their residence (not in remote communities or far North) and a longer history of formal education and greater familiarity with other mainstream institutions.

Despite this improvement, the gap in educational achievement at the lower end is widening rather than narrowing. That is, by 1996, although 26% fewer Aboriginals in this age group had not completed secondary schooling, the corresponding change for the non-Aboriginals was 37%. At the other end of the educational spectrum (obtaining a university degree), the educational gap narrowed, but this is largely a function of the low percentage of Aboriginals with a university degree in 1986. Despite these improvements, it is clear that these rates are unacceptably high, making it important to understand the factors behind these differences.

Some of the reasons for their high non-completion of secondary schooling rate are likely to be the same as for non-Aboriginal youth. Chief among these are the likely perceived irrelevance of education to future labour market outcomes. Above, the argument made was that among non-Aboriginals, marks were the cue youth use to calculate whether education is relevant to their occupational plans, with those having poor marks deciding that it wasn't. The argument here is that, given the high Aboriginal youth unemployment rates that are reported below, it is likely the case that many of them would conclude that education is not an effective pathway to improved labour market outcomes. Stated differently, what applies to *only* those with low marks among non-Aboriginal youth, may apply to *most* Aboriginal youth.

In this respect, it is nevertheless important to point out that educational achievement among Aboriginal people bears the same relationship to employment as it does among non-Aboriginals; that is, those with higher levels of education enjoy lower unemployment rates. The 1996 Census shows that Aboriginals aged 20-29 years without a high school diploma reported an unemployment rate of 40%. This contrasts with unemployment rates roughly half as high for those with secondary (23%) or college (20%) completion; less than one in ten (9%) of those who possessed a university degree were unemployed. But note that the unemployment rates for non-Aboriginals were approximately half that high for corresponding educational levels. Given the prevalence of unemployment among all except the university educated (and remembering that only 4% of Aboriginal young people hold a university degree), it may well be that Aboriginal youth fail to see that education does make a difference. This remains little more than an informed speculation, since data on Aboriginal youths' perceptions and plans is quite sparse.

The role of parents in the educational process of their children will be assessed in detail in a later section. However, one aspect is particularly germane to Aboriginal education. Teachers often

take as an indicator of parental involvement whether the parents come to parent-teacher meetings or other school activities. Friedel, (1999) in a case study of one elementary school in urban Alberta, notes that Aboriginal parents tend not to attend parent-teacher meetings. She suggests that Native parents are uncomfortable coming to school. One reason she believes is that "Native parents who experience the residential school system as children will not fully enter into school activities once they become parents themselves " (Friedel 1999:141).

One unique factor proposed as an explanation for the low educational attainments of Aboriginal (and other ethnic/racial) youth concerns the incompatibility of their cultural knowledge with that promulgated in school. Addressing the issue of the under-representation of Aboriginals in high school science courses Aikenhead and Huntley (1999: 160) emphasize the important role of a "culture broker": "A culture-broker science teacher will help students move back and forth between their Indigenous culture and the culture of Western science and will help students deal with cultural conflicts that may arise." It is unknown how strong, how prevalent, or how much of a barrier such cultural incompatibilities might be. The Royal Commission on Aboriginal Peoples (1996:478) concludes that "if youth are solidly grounded in their Aboriginal identity and cultural knowledge, they will have strong personal resources to develop intellectually," suggesting that cultural clash does not constitute an intrinsic barrier.

The demographic profile of Aboriginals shows that they are younger than non-Aboriginals and have a higher birth rate. The implication is that this group will represent a growing proportion of youth, making it more imperative to understand the nature of their transition experiences.

2.1.3 Gender

The SLF data document that 18% of young men in 1995 had not completed high school by the age of 24, compared to 10% of their female counterparts (Gilbert and Frank 1998:15). The Labour Force Surveys also show a 5% gender difference in the likelihood of not having completed high school (and not being in school) among young adults. This gender difference in high school leaving rates is consequential for all subsequent transitions, which, as will be seen, in turn become increasingly gendered. Hence it behooves those interested in policy issues to understand its sources and nature. The challenge here is to pinpoint the reasons for this gender

difference. The fundamentally different nature of the school experience to boys and girls is key to this quest.

A first point to appreciate is that already at a very early age, girls and boys react to school in starkly different ways, ways that signal looming school problems for boys. Data from the first cycle of the National Longitudinal Survey of Children and Youth (NLSCY) reveals that boys comprised two thirds of all children receiving special education and more than four fifths of all children receiving special education for an emotional or behavioural problem (Bohatyretz 1999:9). The gender difference in special education is important since receiving special education is often the first signal of academic difficulties; eight times as many children who received special education compared to those who had not, had repeated one or more grades by the time they were 11 years old (Bohatyretz 1999:15). Further, students in grades 1 to 6 showed clear and consistent gender differences in those work habits necessary for doing well in school. Teachers rated female students higher than male students in work habits such as working neatly and carefully, independently, listening attentively, completing work on time, taking care of materials and following directions (Julien and Ertl 1999:26). Likewise, boys were generally about twice as likely as girls to engage in conduct disorders and physical aggression (Julien and Ertl 1999: 27). Similarly, boys scored at least 20 percentage points higher than girls on eight measures of hyperactivity and inattention behaviours (Julien and Ertl 1999:29). In contrast, teachers were more likely to assess girls than boys as displaying various aspects of pro-social behaviour (Julien and Ertl 1999:31).

In light of these early school experiences it is not surprising that even before students reach high school, consistent gender differences in reactions to school are found. This is clearly shown in the Atlantic Provinces Quality of School Life Survey, which indicates that, by Grade 8, female students consistently responded more positively than males to school (Atlantic Provinces Education Foundation 1996). These gender differences were particularly telling with respect to endorsement of the statements that school is a place they "like to be", and a place they "like to go to." Girls were at least 15 percentage points more likely than boys to endorse these sentiments. What accounts for this finding? What is it about school life that makes boys less satisfied? Further research is needed to answer this question.

Girls are also more likely than boys to be engaged in school activities. Engagement in school has moderate inhibiting effects on participation in problem behaviours such as drug and alcohol consumption and self-reported delinquent activity. Studies based on longitudinal data suggest that the primary causal connection is that school engagement at an earlier point in time inhibits subsequent problem behaviours (Steinberg and Avenevoli 1998).

The net effect of all of these more negative school experiences among boys translates to lowered educational aspirations and expectations. Gender differences in educational aspirations already exist among high school students in Canada today: girls aspire to higher levels of education than do boys (Perron 1996). The rising educational and occupational aspirations of Canadian teenaged females is part of a larger trend; the 1989 Scottish Young People's Survey, for example, found that 16-year old girls from the lowest socio-economic homes had aspirations that exceeded those of boys from the highest socio-economic backgrounds (Furlong, Biggart et al. 1996:554). This finding is particularly noteworthy given the large influence that parental social class has on such aspirations. Some studies also indicate that already by the age of 13 boys are less certain than girls about their future education (Furlong and Cartmel 1995). Some researchers argue that uncertainty about future outcomes increases risk-taking behaviours and decreases the likelihood of making appropriate decisions (Gardner 1993). Since the gender differences in high school leaving have their origin at a much earlier age, school leaving issues are probably best addressed at a much earlier point in time.

All of the gender differences in school experiences and behaviours culminate in lower academic performance for boys than girls. This lower academic performance, in conjunction with their more negative experiences in school, pave the way to lower their educational aspirations and expectations and consequently their earlier exit from educational institutions.

It must be kept in mind that the circumstances surrounding high school leaving differ for the two genders. That is, the reasons females leave are quite different from why males leave.[1] A first difference in circumstance is that family responsibilities played a large role among the young women: 64 percent of the non-returning leavers had dependent children, compared to only 28

[1] The following analysis focuses just on the non-returning leavers and is based on the 1991 SLS and the 1995 SLF survey (youth who in the 1991 SLS had left high school without graduating and who had not returned to complete their high school by the time of the 1995 SLF survey). Gilbert and Frank (1998) is the source of this information.

percent of their male counterparts. They were also substantially less likely to be single (41% of women; 63% of men).

A second factor is the composition of the family of origin. The non-returning female leaver was less likely to live with two parents in the final year of high school (54% of the young women non-returning leavers compared to 71% of the young men).

Disability constituted a third gender difference in circumstance. Fourteen percent of the non-returning women leavers, but only six percent of the comparable males reported having a disability.

In contrast, weak academic performance appeared to be a more salient circumstance for boys than for girls, with only 37 percent of the male, compared to 46 percent of the female, non-returning leavers reporting an average grade of at least a B during their last year of high school.

The conclusion that the circumstances surrounding school leaving are not the same for the two genders is reinforced by the number of hours that they work at a paid job during high school as well as the nature of their initial labour market experiences. The SLF survey shows that male school leavers were more likely than their female counterparts to work 20 hours or more per week during high school--43% and 26%, respectively (Gilbert and Frank 1998:19). This suggests that having a job with long hours was more of an incentive to leave school among teenaged men than women. This interpretation is corroborated by the finding that among the female leavers, the median time between that event and obtaining what is called a "reference job" (one that lasts at least six consecutive months and involves at least 20 hours of work per week) is 14 months. For the males, the median is 9 months. For no other level of education (except among current post-secondary students) is the gender difference more than one month (Marquardt 1998:24). The family and disability factors among the female leavers could well be the reason for this relatively long delay. Likewise, just over half (53%) the female leavers who were without work were looking for a job during a gap of six months or more, whereas this characterized almost three-quarters (73%) of comparable male leavers (Marquardt 1998:26). The reason young women leavers were not looking for a job may well be because of the family and disability circumstances. The SLS shows that in 1991 three out of every ten young women leavers 18 to 20 years old had dependent children.

In line with the argument that male teenagers are more affected by the push-pull labour market factors, their labour force participation dropped more (7.9%) than the female teens (6.3%) between 1989 and the first half of 2000. We should also see a growth in male teens school leaving rate during that time period, although relevant figures haven't been found. Likewise, the 1995 SLF survey also shows that male leavers earn only slightly less than male graduates ($400 versus $430 per week, respectively), whereas female dropouts earned only $260 per week.[2] Finally, a survey of 1995 Alberta Grade 12 students found that male students were 9 percentage points more likely than female students to agree that they would take any job that paid $20 an hour (Lowe et al. 1997:53)

The question still remains, why do more male teens than their female counterparts respond to economic improvements by leaving school? First, I suspect that this phenomenon is concentrated among working class boys, and secondly that this is due to school experience being a less positive one for them. In short, life course factors, such as parenthood and other family responsibilities, appear to be behind young women's decision to leave high school; in contrast, school (low marks, negative school experiences) and labour market factors (desire to get a job, perceived irrelevance of school for their job) are the driving forces behind young men's decisions.

2.1.4 Parental socio-economic background

A consistent finding in the literature is that parental education, occupation, and income are strong predictors of their children's education (Furlong, Biggart et al. 1996; Andres, Anisef et al. 1999). For example, only 10% of school leavers come from homes where the mother had more than a high school education, compared to 45% among university graduates (Gilbert and Frank 1998:15). Researchers are uncertain and in disagreement about the precise reasons for the connection between parental education and their children's academic performance and educational outcomes. Some argue from a "culture of poverty" perspective, suggesting that less educated or working class parents place less importance on education. Others note that schools are middle class in values, organizational structure, and forms of communication and hence mesh well with the cultural capital of middle class parents, thereby facilitating certain forms of social

[2] One reason for this gender difference is that three-quarters of male dropouts work in blue collar jobs, while their female counterparts find jobs in entry-level clerical and service sectors.

capital. Nevertheless, some of the mechanisms through which the socio-economic characteristics of parents affect their children's educational outcomes are well known.

A first mechanism is that children from low-income households are more likely to receive special education. Bohatyretz (1999:13) reports that approximately a third of all children living in households with incomes of under $30,000 receive special education; more than a half of those who receive special education because of emotional or behavioural problems, and about three quarters of those who receive special education because of home problems, live in such households.[3] A similar pattern is revealed with respect to parental education, leading to the general conclusion that the home environment of children growing up in lower socio-economic households is a more stressful one. These stresses impact quite strongly on the early academic performance of the children, since between the ages of 6 and 11 about eight times as many children who received special education had to repeat one or more grades, compared to those who did not receive special education (Bohatyretz 1999:15). Teachers are especially likely to rate special education students near the bottom of their class in reading (46%), mathematics (37%), written work (51%) and overall achievement (39%). In contrast, 6% or less of the students who did not receive special education were rated that way on any of the above measures of academic performance.

Parents generally support high educational aspirations for their children (King and Peart 1996). The educational aspirations that parents have for their children are usually as high as, or even higher than those that their children have (Thiessen 1993:60; Thiessen 1996:27). In one study, teenagers who decided to pursue post-secondary education frequently mentioned parental encouragement as a positive influence; only their own attitudes to school were mentioned more frequently in this respect. In contrast, parental influence did not appear as a reason for those who decided not to continue their education (Looker 1996:156). Hence it would be quite wrong to suggest that active parental discouragement of completing high school is a factor in youth's decisions to leave high school. In an interesting longitudinal study of the transition outcomes of children who were the offspring of teenage mothers, the educational aspirations of the mother are consistently related to positive transition outcomes, such as completing high school

[3] All statistics regarding special education are from the first cycle of the NLSCY.

(Furstenberg and Hughes 1995), suggesting that parental support even in disadvantaged homes plays a significant role in facilitating desirable school-work transitions.

Another mechanism is that better-educated parents are more likely to see higher education as an essential ingredient for their children's success, and therefore encourage and expect their children to continue their education and that their children subsequently take it for granted that leaving high school is not an option. Amato and Booth (1997:158) report that up to one-half of the connection between the education of parents and their children is accounted for by this factor. It is important here to make a distinction between positive and negative influences. Looker's (1996) data shows that parental encouragement is a frequently mentioned positive influence, yet parental discouragement is not a salient factor among those who did not pursue further education. Crysdale (1999:95) reports that youth who had high educational and occupational aspirations cited parental support as strong and consistent, even though the parents themselves felt they had little influence. Especially with respect to occupational plans, parents increasingly lack confidence to provide guidance to their children, with only a minority of parents reporting discussing such plans with their children (Crysdale, King et al. 1999:87).

Each of the parents also acts as a role model for their children. Some evidence suggests that the education of both parents are important influences on the educational achievement of young women, but that mother's education has no independent influence on the educational achievement of young men (Amato and Booth 1997:156). Parcel and Menaghan (1994) demonstrate how the characteristics of parents' jobs, especially the cognitive complexity required in their jobs, affects children's reading levels and other skills. Jobs requiring cognitive complexity are of course jobs requiring higher levels of education.

2.1.5 Single-parent households

Children growing up in a single-parent household make up a growing segment of the Canadian population and high school leavers are disproportionately represented in such households (Gilbert and Frank 1998:16).[4] Since poor academic performance is the single greatest reason for

[4] Note though that in this respect Aboriginal students differ from non-Aboriginal students. On the basis of the 1996 Census, Tait (1999) reports that "Aboriginal lone mothers were more likely than mothers in two-parent families to be attending school. Indeed, some 30% of Aboriginal lone mothers were attending school, most on a full-time basis. This compared with 20% of Aboriginal women with children in two-parent families." It is unclear what accounts for this difference.

not completing high school, it is to be expected that children from single-parent families perform worse than their counterparts from two-parent households. Consistent with this expectation, the NLSCY data document that children from single-parent families are roughly twice as likely to receive special education as children from two-parent families; 17% and 9%, respectively (Bohatyretz 1999:12). U.S. data also consistently show that, at the descriptive (bivariate) level, children from single parent families score lower on standardized reading, math, science, and social studies tests (Sui-Chu and Willms 1996; Sun 1999).

Earlier literature emphasized the lack of financial resources and other stresses associated with such poverty as the main reasons for these findings. More recently, the composition of the family has become one of the focal concerns from a social capital perspective. Single-parent households are structurally limited in the amount of social capital they can generate. That is, there is only one parent rather than two who can generate and maintain social ties with the child, school, and community. Such limitation in social capital is empirically documented, even after appropriate controls for parental financial and other resources (Sui-Chu and Willms 1996). Of particular note is the finding that once both financial resources and social capital are controlled, children form single parent families perform as well academically, and are as likely to complete high school, as children from two-parent families (Sui-Chu and Willms 1996; Pribesh and Downey 1999; Sun 1999). These findings are consistent with the interpretation that the lower academic performance, and greater likelihood of high school non-completion, of children from single-parent families is due to limitations in *both* financial and social capital. Once these factors are taken into account, family structure is no longer related to academic outcomes.

2.1.6 Province

Relatively large provincial variations in high school completion rates are also revealed, with completion rates increasing approximately from east to west (Gilbert and Frank 1998:10). Reasons for these provincial variations are not well-understood. What is known is that the provincial variations are produced primarily by large differences in the propensity of young men to leave school. This pattern of a greater male rate of school leaving is evident in all provinces except Saskatchewan where the rates for each gender are equal. There are regional differences in the degree of gender disparity. The western provinces have a much smaller disparity, 0 to 4 percentage points difference, compared to the central and eastern provinces, where the disparity

ranges from 10 to 16 points difference. As the female rate remains somewhat constant in all regions, the greater disparity in the east is a result of higher rates of dropping out for males (Gilbert, Barr et al. 1993).

One of the puzzles with respect to the provincial variation in high school leaving rates is that they are not related to provincial unemployment rates in the expected manner. It is generally agreed that young men are particularly likely to leave school when (and by implication, where) the labour market conditions are favourable. By this line of reasoning, young men should be particularly likely to leave school in Ontario and the western provinces, but it is precisely in these provinces that young men are least likely to leave school. Hence it is clear that other factors must be at work to produce the provincial gender variations—factors that are currently not well understood.

2.2 High school transition features and policy initiatives

2.2.1 Part-time work during high school

Most Canadian teenagers obtain paid work experience some time during their high school years. Such early labour force participation is widely thought to have a variety of positive effects. Canadian parents, like those in many other countries, encourage their children to work part time, believing that such work during teenage years has important positive consequences.

From the development point of view, adolescents' labour force participation provides an important structure in which autonomy can be crystallized, since it is at the worksite that young people are first treated as adults. Occupational--and to some extent gender—identities are developed and reinforced at the work site. Additional possible beneficial effects are skill development, especially employability skills such as time management; appropriate work habits such as punctuality; "planful competence" (Clausen 1991) produced through increased self-esteem and self-confidence; and a reduction of problem behaviours such as alcohol and drug use, and delinquent activities. These positive effects are thought to directly and indirectly improve school-work transitions, such as greater likelihood of future employment, improved job search, and higher income.

The prevalence of combining high school with part-time work, especially during the school year, has also prompted a concern about possible negative consequences of combining these two activities. It is feared that this may lead to a reduction in attachment to school and school activities, lower marks, earlier school-leaving, and encourage "precocious development" (Bachman and Schulenberg 1993), thereby hastening a premature transition to adulthood.

The evidence concerning the presumed consequences, both positive and negative, is mixed. The main reasons for the mixed findings are conceptual and methodological inadequacies. At the conceptual level, recent research recognizes that several aspects of high school work need to be distinguished, since they have potentially very different effects. These include incidence (whether a student ever worked, duration (number of weeks worked), intensity (number of hours per week), sequencing (work during the school year or during the summer or both) and quality of the work obtained (defined in numerous ways, such as opportunities for skill use and development or congruence with intended occupation). At the methodological level, the importance of controlling for initial states (i.e., the selection effect) is increasingly recognized and implemented, but this of course requires longitudinal data. When these inadequacies are redressed, the findings are much more consistent.

First, the mere fact of whether one works or not during high school has minimal effects on such things as high school completion, marks, engagement in--and attachment to-- school, ease of finding employment subsequently and so on. Selection effects account for most of the results here, since—at least in the U.S.— those who never worked during high school are disproportionately drawn from immigrants and members of minority groups (Mortimer and Johnson 1998:444).

Studies that assessed the hours of paid work during the school documented a number of short-term outcomes. A consensus developed that working more than 20 hours per week resulted in lower marks, disengagement from school activities and greater likelihood of dropping out of school. It is still unclear to what extent selection factors account for some of these findings. That is, it is quite plausible that those who are doing poorly at school choose work as a place to find rewarding activities. Studies using longitudinal designs, which permit partial assessment of the selection versus causation interpretation, lend support to both points of view (Steinberg and Avenevoli 1998), while at the same time indicating that both effects are modest at best.

Evidence is converging that working long hours is associated with alcohol consumption (Bachman and Schulenberg 1993; Steinberg, Fegley et al. 1993; Mortimer 1996), which Mortimer and Johnson (1998:438) describe as "one of the most robust findings on this subject."

Once selection effects are taken into account, incidence, duration, intensity, and combinations of duration and intensity fail to show significant effects on grades (Mortimer and Johnson 1998). A work pattern of low-duration high-intensity appears to have a number of negative outcomes just among women, including problem behaviours during high school, smoking and drinking, and low educational plans. These relationships remain after appropriate controls are introduced.

Working in high school, no matter how it is measured, has no appreciable effect on mental health factors such as self-confidence, as Mortimer and Johnson (1998: 468) summarize with respect to their own study: "With only one exception, we report null findings with respect to mental health indicators. Neither the mere fact of working, nor the hours of work at any given time, nor the pattern of employment during the entire high school period influence key mental health and self-concept dimensions either contemporaneously or 4 years after high school."

A work pattern of high duration and low intensity seems to be a favourable combination with respect to post-secondary education, particularly for young men. In contrast, high intensity workers, regardless of duration, had earlier transitions to full-time work (Mortimer and Johnson 1998).

Does work experience have the expected effects with respect to improved labour market outcomes? Little evidence exists that it does. Even school-sponsored work experience programs in which careful attention was given to matching student's career aspirations with their work placement, failed to improve labour market outcomes in the year following high school (Thiessen and Looker 1999:183)

It is now often thought that early work experience is most influential on the work-related attitudes and behaviours young people learn at these jobs, rather than having much effect on their skills and knowledge (Loughlin and Barling 1999:). These attitudes and behaviours may of course be appropriate or inappropriate, depending on the nature of the work experience provided. In a study of Canadian high school students, Loughlin and Barling (1998) found that part-time

work had little effect on their work attitudes. It may well be, as Kelloway and Harvey (1999) suggest, that children learn enduring work attitudes from their parents that are not easily changed by involvement in part-time work during high school.

2.2.2 High school co-op and other school-sponsored work experience programs

Earlier it was documented that those who leave high school prematurely (i.e. without graduating) have less positive school experiences and are less likely to see the relevance of their education to their future work. Various forms of work experience programs in high schools are relevant in this context. The underlying assumption is that by integrating structured and school-sponsored work experience into the curriculum, students would come to appreciate the relevance of education to work. High school Co-op programs constitute one form of such integrated education. Proponents of such programs claim that they also improve the learning process (Lewis 1997:5). Little evidence for the positive effects on school retention, learning, or future labour market outcomes exist to support these claims.

There is supporting evidence that work experience programs are most attractive to those who are more at risk of not completing high school, such as those in non-academic streams (or their equivalent) and coming from less advantaged socio-economic backgrounds. In the 1996 Alberta survey of Grade 12 students, Lowe, Krahn and Bowlby (1997:30) report that twice the proportion of students in a non-academic, as compared to an academic, program participated in a high school work experience program (42% versus 19%, respectively). They also tend to come from less advantaged socio-economic backgrounds (Crysdale, King et al. 1999; Thiessen and Looker 1999). These initial differences (selection effects) confound attempts to assess the impact of participation in such programs on subsequent academic performance and labour market outcomes. As Hiebert and Thomlinson (1996:2) point out "longitudinal program evaluation research that extends beyond determining that participants believe they have been positively affected by the program, to display evidence that the program in question is responsible for the change in participants, and to determine what components of the program are responsible for that change" is needed.

2.3 At-risk youth

From a policy perspective, two issues are paramount. The first is obtaining a fuller understanding of who is at risk of making less successful transitions. The second is uncovering the factors that mitigate the impact of these risk factors on subsequent negative transitions. That is, some risk factors, such as early pregnancy, are known to have deleterious effects on school-work transitions, and social policy would obviously be addressed to minimizing the teenage pregnancy rate. At the same time, given that a teenage pregnancy has occurred, there may be certain steps that can be taken to minimize the extent to which this factor is a barrier to successful transitions.

Earlier definitions of at-risk youth focused at easily identifiable and relatively stable characteristics of youth that were associated with less successful transition outcomes. Some progress in identifying risk factors was made with the recognition that the risk factors tended to cluster, with the insight that particular combinations of characteristics provided a better prediction of groups at risk of unsuccessful transitions. More recent research, informed by the life course perspective, recognizes that risk factors are much more fluid and depend on the nature and timing of prior transitions, and the interaction of those with other social characteristics. Early marriage is generally thought to impede successful educational and labour market transitions. Yet among disadvantaged young black males, marriage seemed to act as a buffer against future negative transitions. That is, compared to other young black disadvantaged males who did not get married, this group was moderately successful economically, and was also the only group with no incarcerations and low problem behaviours, such as drug and alcohol use (Ensminger and Juon 1998).

One province (New Brunswick) decided in 1999 to increase the minimum school leaving age to 18 years. In light of the understanding of the dynamics of school leaving presented above, it will be very important to monitor how this is being implemented (factors such as child care facilities) and the effects of this decision on school performance among the older teenagers.

From a policy perspective, an important group to monitor would be those youth who are neither in the labour force nor enrolled in educational institutions. Special programs might be devised for such youth to encourage them to upgrade their skills. It is unlikely that information campaigns to promote high school completion by themselves would have much impact, since the

literature shows that young people from an early age on generally recognize the importance of education.

2.3.1 Are educational aspirations too high?

Some scholars identify a "weakness of the sorting mechanisms in Canadian schools" which they feel is in part responsible for "encouraging far more students to remain in university-based courses than will later attend university" (King and Peart 1996:168). This "weakness" is inherent in countries such as Canada that stress equality of opportunity and therefore de-emphasize "streaming." How serious is this weakness? Several considerations suggest it is not serious enough to warrant drastic actions. First, during the course of high school, a levelling of educational aspirations takes place. That is, fewer students in Grade 12 than in earlier grades expect to attend university, for example (Perron 1996). Academic performance, especially the grades received in English and mathematics courses, is the main factor for the reduced aspirations (King and Peart 1996). Grades act as a "reality check" on aspirations. Second, little evidence exists that dashed expectations generate negative personal outcomes. Third, educational expectations are fluid at this early point in life, suggesting that high levels of education are simply not ruled out, rather than being part of a firm, committed plan. Finally, several longitudinal studies show that educational expectations actually increase during the immediate years following high school (Andres 1999; Thiessen and Looker 1999), suggesting that with increased exposure to both the labour market and further education, young people are convinced they need even more education than they previously thought.

Although educational aspirations during adolescence are high, it must not be overlooked that they are also quite unstable at that point in teenagers' lives, with substantial numbers either not knowing, or changing their educational plans from year to year (Furlong and Cartmel 1995; Thiessen 1998).

2.3.2 Implementation of plans

In light of the substantial uncertainty in high school students' plans, it comes as no surprise that there is only a loose congruence between their plans and subsequent behaviour. The high educational aspirations translate into an asymmetry between educational plans and transition into work. Specifically, almost all teenagers who actually pursue post-secondary education

(especially a university education), planned to do so while in Grade 12 (see Sharpe 1996:181 for the situation in Newfoundland). On the other hand, so did the majority (75% in the Sharpe (1996) study) of those who did not pursue any post-secondary education. As a direct consequence of this asymmetry, most teenagers whose main activity following exit from high school is the labour market, did not have this as their plan. This is likely the main reason why in the Sharpe (1996) study, three-quarters of those who did not pursue further education felt their career plans were off track six months after completing high school, compared to only one in twenty of those currently pursuing post-secondary education.

In a longitudinal study of young people in Nova Scotia and Hamilton Ontario who were 17 years old in 1989, Looker (1997:10) found a gender difference in educational expectations, with two-thirds of the women expecting to attend university, compared to 54% of the men. This gender difference evaporated with respect to educational attainment five years later, with just over half of both genders having participated in university programs, although sampling attrition may account for part of this. Thus, the educational attainments of men, at the aggregate level, matched their expectations, whereas for the women their expectations exceeded their attainments. One factor likely responsible for that is parenthood, which, consistent with other studies, had a curtailing effect on educational achievement, especially among young women.

2.3.3 Role of high school counselors

Given that parents increasingly feel unqualified to provide career advice to their children means that high school counseling has an important role to play. The importance of high school career counseling is underscored by the fact that school-work transitions are rather unstructured in Canadian society relative to the situation in many other OECD countries. Although most students avail themselves of this service, it is primarily to obtain information and guidance concerning the selection of classes to take in high school, secondarily to help make educational choices, and rarely for career-related decisions (Thiessen and Looker 1999). Even more distressing is that "those youth most in need of counseling, those doing poorly in school and/or those who were unsure of what to do after high school, were least likely to consult their school's guidance services" (MacKinnon and Looker 1997:8). This points to a need for high school counselors to be more proactive.

2.3.4 The role of parents

Analyses based on longitudinal data indicate that parental supervision and/or permissiveness has little effect on their children's subsequent school engagement. At the same time, however, such supervision significantly reduces teenagers' use of drugs and alcohol (as well as other self-reported delinquent behaviours) and this in turn increases subsequent school attachment (Steinberg and Avenevoli 1998). One factor is the existence and enforcement of parental house rules, such as curfews (Ensminger and Juon 1998). Some studies indicate that teenaged girls are more susceptible than boys to parental influence such as supervision (Steinberg and Avenevoli 1998:416). The nature of life at home during adolescence is consistently shown to be related to future transition outcomes.

2.3.5 Community networks

One aspect of social capital is the prevalence of, and integration into, community social networks. Little Canadian research exists on this topic (for an important exception, see Hagan, MacMillan et al. 1996). Nevertheless, studies in other countries indicate that parental integration into such networks can make a significant difference in the transition outcomes of the children (Furstenberg and Hughes 1995; Pribesh and Downey 1999).

2.3.6 Vocational courses in high school

Vocational courses in high school are not popular, with only about 10% of Canadian high school students enrolled in vocational/technical programs. The numbers of such graduates fell slightly from 1990-97, after a very large drop from 1983 to 1990. The Canadian report for the OECD thematic review of the transition from initial education to working life suggests that this decline is due to "changes in the skill and technological requirements of the trades, limited job opportunities, the obsolescence of equipment and techniques in many schools, rising aspirations for postsecondary studies, and the tendency to move many vocational programs into postsecondary institutions" (Council of Ministers of Education, Nova Scotia Department of Education and Culture et al. 1998:15). Note, however, the share of graduates in technically oriented fields increased (Human Resources Development Canada 2000:29). Males predominate in these areas.

The unpopularity of vocational high school programs is one of the symptoms that Canada lacks popular yet clearly-defined pathways from secondary schools to skilled occupations that are not in the professions. To a large extent this is due to the high value placed on academic programs by students, parents, and educators. This creates a policy challenge for how to serve well those young people who are not academically inclined. Limited evidence from Canada (Thiessen and Looker 1999) suggests that the availability of non-academic courses facilitates high school completion rates. In a U.S. study, the employment rates of vocational track students four years out of high school were significantly higher than their counterparts in the general education track, although at the same time they were less likely to have enrolled in post-secondary educational institutions (Arum and Shavit 1995). With respect to the latter finding, the authors argue that this is most likely a selection effect and that vocational education in high school acts as a "safety net" for those students who are unlikely to go to college.

It is relatively clear that being in academic programs facilitates entry into white-collar occupations, especially professional and managerial ones. Some evidence exists that graduates of vocational programs in high school in the U.S. achieve higher paying first jobs than do other graduates (Arum and Hout 1998:503).

2.3.7 High school curricular reform

Recent changes in high school curricula indicates that provincial authorities feel that students would benefit from increased exposure to, and participation in, work-based experiences. For example, in Ontario greater emphasis on career development is to begin in elementary school. During Grades 7 to 10, opportunities for job observation, shadowing and mentoring will be introduced, followed by actual work experiences at job sites under joint school/employer oversight as part of some credit courses (Ontario Ministry of Education and Training 1996).

Is this emphasis on career and work experience warranted? The answer depends on which particular kinds of educational and labour market outcomes are intended. A review of the literature supports the conclusion that high-schoo! sponsored work experience programs benefit certain kinds of students more than others. One important finding is the connection between educational and occupational aspirations. Those who believe that their future work requires post-secondary education plan to obtain such, and therefore they are at a lower risk of ending their

education prior to, or at the point of, a high school completion certificate. For them, work experience programs as part of their high school education is not particularly important, and indeed may conflict with their educational performance. Conversely, it is precisely those who do not see a strong connection between the education they are receiving in high school and the kind of work they anticipate who plan to curtail their education (Andres, personal communication). Exposure to the world of work is likely to help these youth see the relevance of their education. It is in this context that high school work experience opportunities must be examined.

Before examining participation patterns in post-secondary education, a general observation about the nature of human capital investments should be made. Strong evidence exists for what Betcherman et al. (1998:42) call the "seeding effect." This refers to the frequent finding that the more individuals invest in human capital, the greater their interest in further investments. For example the 1995 SLF survey shows that only one-quarter of high school leavers subsequently took education or training courses, compared to four-fifths of graduates. These finding underscores the importance of early positive educational experiences on human capital investment.

Since it is vitally important to at least complete high school, policies that facilitate young people's return to high school, such as free tuition, subsidized day care, and employment income benefits should be considered where they are not already in place.

3. Post-secondary participation

Attention is now turned to those youth who have successfully completed high school. For them the crucial decision is whether to become active in the labour market immediately, or to engage in some form of post-secondary education, and if so, whether in a trade/vocational program, community college, or university. On the basis of the 1995 SLF, Butlin (1999:14) reports that nearly 80% of high school graduates had participated in some form of post-secondary education by 1995. University was the most popular post-secondary institution, with over 40% having attended university, while trade/vocational institutions were least popular, with only 7% participating in such institutions. Community college was in-between, with 3 in 10 students attending such institutions. What the factors are that determine which of these decisions is made is the question that is addressed in this section.

3.1 University versus non-participation in post-secondary institutions[5]

In light of the nature of the features of the Canadian education system outlined earlier, it is not surprising to find that the factors that determine university attendance are identical to, but a mirror image of, those that determine a direct transition to the workforce. To elaborate, marks are the single most important determinant of both groups; just under 7 in 10 A-average students in their last term of high school attended university, compared to only 2 in 10 C-average students. In contrast, only about 1 in 10 A-average students did not continue with some form of post-secondary education, compared to about a third whose average was C and about a half of those with mainly D's and F's. All other direct and indirect indicators of academic performance are related to these two transitions in the same, albeit weaker, manner. These include difficulties in high school mathematics or English/French literature, skipping classes, class participation, having left high school at some point, working more than 20 hours per week in high school, having friends who thought it was very important to complete high school and failing a grade in elementary school.

Other studies concur that high school marks, especially in English, mathematics, and the sciences, and the levels at which they are taken, are key predictors of whether young people will

[5] Except where noted otherwise, the 1995 SLF survey is the source of the statistics cited in this—and the next—section and are reported in Butlin (1999).

pursue post-secondary—especially university—education (King and Peart 1996). High school students are somewhat cognizant of the importance of marks in this respect, with almost half (46%) the students in Newfoundland who made a direct transition from high school to work citing difficulty in meeting entrance requirements. Similarly, in Looker's (1996) longitudinal study of 17-year-olds, grades in high school and meeting entrance requirements, although recognized as important factors, are not among the top three most-frequently mentioned negative influences among those with no post-secondary education, nor among the top three positive influences among those who pursued further education (although the courses taken are in third place). In a multivariate analysis of educational attainment, high school marks were the strongest predictor, even with academic stream and taking a senior year science course included in the equation (Looker 1997:29).

Parental education is the second-strongest determinant of university attendance, being almost as important as marks. Thus two-thirds of students whose parents had attended university also chose to attend university, compared to just 3 in 10 whose parents had less than high school. As expected, parental education also differentiates among those who did not attend any post-secondary institutions following high school, but not as strongly; about twice as many students whose parents did not complete high school as compared to those whose parents attended university did not enroll in any post-secondary institutions (27% and 13%, respectively).

Indeed, all factors that were related at the descriptive level to university participation were related to non-participation in any form of post-secondary education in the mirror-opposite way. For example, two high school social factors—participating in extra-curricular activities and having close friends attend the same school—increased the proportion attending university and decreased the proportion that decided not to attend any post-secondary educational institution. Likewise being born outside of Canada, not having an activity limitation, being female, and living in an urban area increased university attendance but decreased post-secondary non-attendance.

Taking all of the above relationships into account, the conclusion is that university attendance and post-secondary non-participation are polar opposites. They form two clusters whose characteristics are in every way the exact opposites of each other.

3.2 Participation in university versus non-university post-secondary institutions

The question now is, what factors differentiate attendance at either community college or at trade/vocational schools from attendance at university and/or post-secondary non-attendance? At first glance, the somewhat surprising answer is that attendance at non-university post-secondary institutions is generally related to the same factors, *and in the same direction but not as strongly,* as non-attendance at any post-secondary institution. That is, for example, low marks characterize both the non-attenders as well as the participants of community college and trade/vocational schools. However, these patterns are to some extent an artefact of the marginal distributions in conjunction with the strong relationship that university attendance has with these characteristics. That is, the very strong relationship that university has with marks and parental education, for example, constrains to some extent the relationships with the other forms of post-secondary participation to be in the opposite direction.

One way around that difficulty is to perform multivariate analyses. Such analyses are especially helpful in assessing the extent to which earlier conditions are mediated by later events. Such equations have the additional advantage that they assess the effect of any variable adjusting for all other factors included in the equation. In this way they help answer important questions such as, does parental education continue to influence university attendance even after academic performance and other factors relevant to attending university are taken into account? Such questions are particularly important for social policy, since the answer to such questions informs us about how effective interventions might be. If the effects of parental background persist, then policy interventions are not likely to have much effect on increasing equity. Further, they help to unravel the specific mechanisms and reasons for observed findings. Indeed, in some instances they will reveal that a particular finding that did not use multivariate techniques is actually wrong.

One form of multivariate analysis is the multinomial logistic regression. This technique permits one to assess the relative odds of each of several discrete outcomes (such as attending community college or attending university) that are associated with respondent and group attributes. The results of the multinomial logistic analysis permit the following conclusions. First, all indicators of academic performance are more strongly related to university attendance

than they are to attendance at either community college or trade/vocational schools. For example, a network of friends who believe that it is very important to complete high school remains a significant predictor of university attendance even after controlling for marks, but this factor does not help to differentiate between attendance at either of the other two forms of post-secondary education as compared to non-attendance at any post-secondary institution. This indicates that surrounding oneself with friends who see the value of education improves ones chances of attending university even after social background and academic performance is taken into account. Also important is the fact that failing a grade in elementary school remains a significant deterrent to attendance at all three types of post-secondary institutions. Given that both parental background and subsequent academic performance have been controlled, the reasons for the persistence of the effect of having failed a grade in elementary school should be explored in future research. The indicators of academic performance tend also to be related more strongly for attendance at community college than for attendance at trade/vocational schools. Looking specifically at the relationship between marks and type of post-secondary institution attended, it is clear that they are the strongest determinant of university attendance versus non-participation. With respect to attendance at community college, marks have no significant effect one way or the other. That is, the marks obtained in the last term of high school in no way differentiate between those who choose to attend a community college versus those who choose not to participate in post-secondary education. Even more surprising is that A-average students are even less likely to choose to attend trade/vocational school as opposed to not participating in any post-secondary institution, than are C-average students. Stated differently, faced with the choice between trade/vocational school or not attending any post-secondary institution, A-average students are more likely to opt for the latter than are C-average students. Similarly, those who failed math in high school are 37% *more likely* to choose trade/vocational school over non-participation than are those who had no problems with math. The clear implication is that universities are the post-secondary institutions of choice among the best students and trade/vocational institutions are the least favoured, even to the point that not attending any post-secondary institution is preferred.

Second, parental education remains a powerful determinant of university attendance; after taking all other factors mentioned above, as well as several additional ones into account, the odds of university attendance as opposed to no post-secondary participation among students with

university-educated parents are at least three and a half times greater than those whose parents completed high school. Parental education is also a factor for community college attendance, but here the highest likelihood of such attendance is for students whose parents themselves attended either trade/vocational schools or community college. In contrast, the odds of students with university educated parents attending trade/vocational school as opposed to not participating in any post-secondary education is even lower than among students whose parents completed high school.

Third, living in a rural area decreases the odds of attending university but has no significant effect on participation in either of the other two forms of post-secondary education. Since universities, unlike many other post-secondary institutions are concentrated in urban areas, this suggests that the absence of a university in the near vicinity acts as a significant barrier to rural students, probably primarily because of the increased financial travel and residency costs for them.

Fourth, women are more likely than men to attend either university or community college, but less likely to attend trade/vocational schools. In conjunction with the finding on marks, it appears that attending trade/vocational schools is the pathway of choice among young men who did poorly in high school.

Fifth, young people with an activity limitation are 53% less likely than those without such a limitation to choose university over not attending any institution. Although those with activity limitations are also less likely to choose other types of post-secondary institutions, the impact of activity limitation is less severe and indeed does not reach statistical significance. The issue of why activity limitation is a stronger barrier to university attendance than it is for other types of post-secondary attendance needs to be explored in future research.

Sixth, young people born outside of Canada are less likely than those born in Canada to choose non-participation over participation in any post-secondary institution after all other social and academic factors are taken into account. This suggests that those born outside of Canada see a greater value in post-secondary education of all types and choose to attend any of them rather than entering the labour force directly after high school.

Finally having participated in class as well as in extra-curricular activities remain significant positive factors in the decision to participate in any of the three types of post-secondary institutions. That is, these benefits cannot be explained away by the greater tendency of the better-performing or more advantaged students tending to engage in these activities. Such participation in extra-curricular and other types of school activities is often regarded as one form of social capital.

There is also some evidence that those who elect to attend community colleges rather than university differ in their work values. Among the 1995 graduates from Canadian colleges and universities, 21% of college but only 13% of university bachelor's graduates rated pay/salary as the most important consideration when selecting their full-time job (Clark 1999:11). It is interesting to note that high pay or salary is generally not among the most important criteria among high school students when thinking about their future jobs. Yet when it comes to selecting a job after graduating from college or university, high pay is ranked as the number one criterion. This pattern extends to a general emphasis on extrinsic rewards among college graduates and an emphasis on intrinsic rewards for university graduates. The latter stress criteria such as the opportunity to develop their skills and abilities, or to obtain a feeling of accomplishment, much more than do college graduates. University graduates are also more likely than college graduates to consider career advancement when selecting a job (Clark 1999:11). With the available data, it is not possible to determine whether individuals with different work values select themselves into different post-secondary institutions, or whether their experiences at these different institutions create different work values.

3.2.1 Delayed participation

The labour market experiences in the first few years following high school are such that significant numbers who initially did not pursue post-secondary education subsequently do so (Andres 1999). Sharpe (1996:179) reports that in his longitudinal study of respondents who were initially in Grade 12, 63% had participated in some form of post-secondary education within 18 months, a figure augmented by another 11% a year later.

3.2.2 Financial barriers

Three aspects of the relationship of financial factors to post-secondary participation are worth noting. First, financial barriers loom particularly large in youth's educational plans. Looker (1996:156) reports that cost is the single most-frequently mentioned consideration among youth who did not pursue post-secondary education. Similarly, almost two in every five (38%) Grade 12 students in Alberta who did not plan to continue their education in the fall cited financial reasons for this decision (Lowe et al. 1997:41). In this province too, financial considerations were the single most-frequently mentioned reason for not planning to continue. In the province of Newfoundland, about seven in every ten such students cited the cost of post-secondary education as a factor influencing their post-high school plans, compared to about half among those who pursued further education (Sharpe 1996:184).

However, youth's assessment of finances appears to play a smaller role in their subsequent behaviour; among those who had not pursued any post-secondary education by 1994, 32% reported five years earlier that the cost of tuition was a negative influence, compared to 31% for those who attended university (Looker 1997:14). That is, whether one initially cited financial reasons as the basis for one's educational plans had little effect on whether one participated in post-secondary education.

Nevertheless, parental income remained a significant factor in post-secondary attainments, even after controlling for academic preparedness and mother's education. In short, teenagers see finances as looming large in their plans, their subsequent behaviour seems not to be predicated on their prior financial assessment, but it is affected by the actual financial situation of their parents. Financial considerations are likely to loom even larger today, since in all except three provinces (PEI, NB, and BC) university tuition fees have increased substantially in the last decade, more than doubling in Alberta (Doherty-Delorme 2001). The picture for college is essentially the same, since such tuition fees also increased in most provinces, with the exception of PEI, NS, and BC (college tuition remains free in Quebec).

The increasing cost of post-secondary education is perhaps jeopardizing the equity goal of higher education. Although the proportion of students who borrow from government-sponsored student loan programs decreased somewhat between 1990 and 1995, the amount owed to student loan

programs increased by 69%, with the average amount bachelor's degree recipients owed two years after graduation being $9,427 (Bouchard 2000:28). Perhaps as a direct result of the financial implications, the gap in university participation rates between youth coming from relatively advantaged and relatively disadvantaged socio-economic backgrounds is widening. Looking at university participation rates of those aged 18-21, Bouchard (2000: 28) found that "the university participation rates for young people from low and middle SES[6] background were quite similar in 1986--13.7% and 14.5%, respectively. However, by 1994, a wide gap had occurred between these two groups, with the rates standing at 18.3% and 25.3%, respectively." Since tuition fees have continued to increase since then, the gap may be even larger now. It is not known whether participation in non-university post-secondary programs is characterized by a similar gap, but this is one of the areas that needs to be addressed in future research.

3.2.3 Linkages between university and community colleges

Canadian society has a long and deep commitment to the principle of equal opportunity. The main mechanism for implementation of this principle is equal opportunity of access to secondary and post-secondary educational institutions. Despite this commitment, research continues to document that parental income and education, persist as determinants of their children's educational achievements, even after controlling for other relevant attributes, such as high school academic performance (Looker 1997; Andres and Krahn 1999). In part, as a response to persistent inequalities in access, several provinces introduced "articulated" systems, which currently exist in Alberta, British Columbia and Quebec. That is, articulated systems have formal arrangements that permit students to transfer certain credits earned at community colleges to university. The question is whether such arrangements are effective in reducing inequalities of access. Not enough data exists to answer this question, but there are some positive indications. Andres and Krahn (1999:62-63) found that a much higher proportion of non-academic students in Vancouver than in Edmonton participated in post-secondary education (62% vs. 37%). This suggests that the greater choice of post-secondary education institutions in Vancouver, and perhaps the greater flexibility of transfer arrangements, were successful in encouraging participation in post-secondary education. In Vancouver, community colleges attracted a larger proportion of high school graduates and then appeared to filter them, either out of the

[6] SES refers to the socio-economic status of the student's parents, as measured by the father's Blishen occupational prestige scale.

postsecondary system or into university. This is perhaps precisely what such articulated systems are supposed to do. It gives high school students of both academic and non-academic tracks the opportunity to see how post-secondary education matches with their plans and abilities. At this point, some stay at community college obtaining a certificate (50%), some transfer successfully to university (15%), with all the benefits that has for future labour force outcomes, some transfer to vocational/technical institutions, obtaining a certificate from there, and some drop out without obtaining a post-secondary certificate or diploma. The overall impact of the inter-institutional transfers was to *increase* the proportions of high school students attending university in the second through fourth year out of high school.

3.2.4 Trade schools and community colleges

Statistics Canada's Registered Apprenticeship Training Survey shows that there were only 44,370 youth apprentices aged 15-24 in public trade schools and community colleges in 1997, representing 0.2% of the youth labour force. Between 1987 and 1997 youth registrations rose about 10%. Women comprised only 7% of all registered apprentices in 1997, although 50% more women registered in 1997 than in 1987. Apprenticeships for male youth are concentrated in motor vehicle and heavy equipment trades. Three-quarters of female apprentices are in the food and service trades, primarily as hairstylists.

Graduates in technical fields increased modestly between 1990 and 1997, but in some areas it was less than during the mid-1980s. It must be kept in mind that apprenticeships in high technology areas comprise only a small part of total apprenticeships. This too is of some policy concern, since it is in the high technology area that growth is concentrated.

Human Resources Development Canada (2000:30) notes that labour market outcomes for graduates in some fields, such as in health, computer science and engineering "have generally been quite positive." Yet in some pure and applied sciences, the outcomes have been mixed, with sometimes higher rates of unemployment and underemployment, dissatisfaction and lower earnings, especially at the undergraduate level. These patterns have not changed a great deal since 1982. The implication is that in these programs, a greater emphasis on generic skills, such as information processing and problem solving skills, is warranted, so that graduates can keep pace with the rapid changes.

There needs to be an injection of some creativity in how the apprentices are trained and for what occupations. Why can't generic type skills be included? Why is there such a low amount of time spent in actual instruction? Could incentive structures be introduced to shift the gender composition and occupational concentrations that are pursued?

3.3 Non-completion of post-secondary educational programs

The 1996 Census shows that 47% of young people 20 to 29 years old had graduated from a post-secondary institution (25% from university and 22% from community college—an increase from 1986 of 8% and 5%, respectively). However, Statistics Canada administrative data show that the percentage of university graduates declined by 3.6% between 1996 and 1997, the first drop after 20 years of growth. This drop is due primarily to a decrease in part-time enrolments in Bachelor's programs that started in 1992. The reasons for the decline in part-time enrolments need to be explored.

The 1991 School Leavers Survey (SLS) and the 1995 follow-up of this study (SLF) provide the best Canadian data on post-secondary leaving. It shows that 20% of community college students in 1991 left without completing their studies. The figure for university students is about the same, at 18% (Butlin 2000:15).[7] What follows is a summary of the findings from this data set.[8]

Starting with family background, parental education had at first glance surprisingly little effect on university non-completion (at best a 5% difference in non-completion rates for different levels of parental education), whereas it made a 10% difference for community college non-completion (25% among those with less than high school versus 15% among those with university-educated parents). However, the parental education effect is probably greatest on the decision to enter university, rather than decision to withdraw. The fact that community college non-completion is more affected by parental education is probably due to parental educational background being less of a screening factor in the decision to enter community college.

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7 It is important to remember that the target population for the SLS was youth who were between 18 and 20 years of age in April 1991. Attrition from post-secondary institutions is substantially higher among older students and the patterns of attrition are also likely to be different.

8 The statistics on non-completion reported in subsequent paragraphs are taken from Tables 1 and 2 provided by Butlin (2000).

All indicators of previous academic performance are strongly related to non-completion. Thus, failing an elementary grade made a 24% difference in university non-completion and a 14% difference in community college non-completion. Average self-reported grade in last term of high school is particularly important, making a 31% and 20% difference in non-completion of university and community college, respectively. Reported difficulties in high school math, English (French literature), and science courses is connected to non-completion in the expected way, but making no more than a 10% difference in non-completion rates at either type of institution. A general pattern is that prior academic performance is more strongly connected to university non-completion than it is to community college non-completion rates.

Reported drug use made a 10% difference in university non-completion and a 13% difference in community college non-completion. This is one indication that non-academic factors might be more important factors for community college non-completion.

Perceived attitudes of friends on the importance of completing high school made a 16% and 6% difference for non-completion of university and community college, respectively. Also whether close friends attended same school made a small difference (6-8%).

Intensity of paid work in the last year of high school appears to predict post-secondary completion rates: 15% of those who did not engage in paid work in the last year of high school were university non-completers, compared to 17% of those who worked less than 20 hours per week, and 28% of those who worked more than 20 hours per week. The pattern is similar for community college non-completion, although the effect is only about half as strong, and those who worked less than 20 hours a week actually had a 1% lower non-completion rate than those who did not work at all. These findings indicate that intensive working in the last year of high school has a negative effect on completion in both community college and university, but especially for university. This effect must be kept in mind when curricular reforms to increase work experience are contemplated. They suggest earlier grades, such as Grades 10 and 11 may be the better for such programs. It is at these earlier grades that the risk of dropping out of high school is the greatest (Thiessen and Looker 1999:17). Such programs are likely to be attractive to those who don't see the relevance of high school to the world of work; and time restrictions in these earlier grades are not as severe as during the final year of high school.

Province where last attended high school makes a 20% difference for both university and community college, with Quebec having the lowest non-completion rates and BC the highest for both types of post-secondary institutions.

Women were 6% less likely to be university non-completers and 6% more likely to be community college non-completers.

A multivariate analysis of university and community college non-completion indicates that the parental education effect on university non-completion disappears once additional factors are included, although the effect remains for community college non-completion. Most variables that tap various aspects of prior academic performance remain strong predictors of post-secondary leaving. These include failing an elementary grade, having left high school at some point, reported problems with high school science, and average grade in last term of high school. It is interesting to note that failing an elementary grade continues to have an independent effect on the odds of post-secondary leaving even after taking subsequent academic performance, such as high school grades, into account. This suggests that the very fact of an early negative educational outcome continues to have repercussions.

The multivariate analysis confirms that academic factors tend to be more salient for university non-completion than for community college non-completion. For example, grades in the last term of high school have a greater effect on the odds of leaving university than they do on the odds of leaving community college. Likewise, some factors that are likely to directly affect academic performance are related to university non-completion but not to community college. This includes skipping classes, having friends who considered it very important to complete high school, and working more than 20 hours per week in the last year of high school. These remain significant factors in university non-completion, but not in community college non-completion.

Of additional interest and policy relevance is the differential effect that non-academic factors have on university as compared to community college non-completion. Specifically, most non-academic factors are not relevant to university non-completion, but many of them are relevant to community college non-completion. For example, whether or not one's close friends attended school, immigration status, living arrangement in 1991 (two-parent, lone parent, other) as well as whether drugs were used during high school, continue to be significant predictors of community

college non-completion, but not of university non-completion. Provincial differences in non-completion remain significant for both types of post-secondary leaving, but the form of the relationship is altered. For both types of institutions, Ontario has the lowest odds of non-completion, with the non-completion likelihood increasing as one comes closer to either the east or the west coast.

The burgeoning tuition fees at post-secondary educational institutions means that most students combine their studies with either full- or part-time work. The effects of such simultaneous participation have not been well researched. A U.K. study (Yorke 1999:14) notes that part-time on-campus employment had a positive effect on completion of undergraduate programs, whereas full-time and off-campus part-time employment had a deleterious effect.

How important are financial considerations in the decision to curtail post-secondary educational programs? From self-reports it would appear they are a very strong factor, generally among the most-frequently cited reasons (Yorke 1999). Yet at the same time, among those who left, over half had already enrolled in another program or institution, and an additional two in five non-completers had plans to enrol in the near future (Yorke 1999:53). This suggests that financial difficulties were not the most important factor in their decision to withdraw.

As is to be expected, financial considerations play a more significant role in the decision to withdraw from a post-secondary program among students coming from less-advantaged backgrounds. From a life-long learning point of view, it is important to note that students from less-advantaged socio-economic backgrounds are less likely to anticipate resuming their post-secondary education in the near future (Yorke 1999:55).

At younger ages, women are more likely than men to complete educational programs. At approximately the end of the age group classified as youth (age 24), women are less likely to complete their post-secondary programs, and this is due primarily to family responsibilities (Yorke 1999:47).

3.4 Skill development

In a comparison of the International Adult Literacy Survey (IALS) scores of Canadian and U.S. youth aged 16-25, Willms (1999:18) found that Canadian youth compared quite favourably,

scoring about the equivalent of one year of schooling higher—double that once parental education and percentage of immigrants was taken into account. The picture is less rosy when European comparisons are made, at least with respect to quantitative skills for which Willms (1999:15) reports that "(y)outh in Canada…do not fare well in their quantitative skills compared with their European counterparts. A typical Canadian youth, whose parents had completed secondary school, scored about two years of schooling below that of European youth whose parents had a similar level of education."

It is well established that literacy rises with education. Thus it is not surprising that dropouts have lower levels of literacy than do high school graduates, for example. What is of greater concern is that Canadian dropouts have lower literacy levels than do their counterparts in many other OECD countries. The implication is that Canadian schools are not serving the needs of the academically less inclined students as well as some other countries do. This is probably a gendered phenomenon, since it is particularly working class boys who seem not to thrive in school. We must also keep in mind that the proportion of students with high levels of skill is fairly constant across the provinces, but it is the proportion of those with less skill that varies by provinces.

3.4.1 Gender skill differences

A recent study documents that among employed Canadians of all ages, women score higher than men on the IALS prose, document and quantitative tests (Green and Riddell 2001:17). On the same IALS tests, young women score higher on average than do young men only on the prose test, but lower than young men on both the document and the quantitative tests (Willms 1999: 19). These gender differences mask an important social background moderating effect. Specifically, young women whose parents had completed high school performed better than young men on all three tests; the reverse was the case when parents had less education (Willms 1999: 19).

3.4.2 Provincial differences

The east-west gradient documented with respect to high school leaving rates also characterizes the skill levels among youth aged 16-25. Specifically, analysis of the International Adult Literacy Survey (IALS) scores shows that on all three tests (Prose, Document, and Quantitative),

youth in Atlantic Canada had the lowest proportion scoring in the top two levels, their counterparts in the four western provinces had the highest proportion, while Quebec and Ontario were in between (Statistics Canada, Human Resources Development Canada et al. 1996:35).

A main source of the provincial variation is the performance of the less advantaged youth. Willms (1999:24) found that youth whose mothers were well-educated "fare about the same across all ... provinces; it is the scores of less advantaged youth that vary considerably among jurisdictions and have the biggest effect on the overall scores for the jurisdiction." Two implications are worth noting. The first is that youth from advantaged backgrounds do well, regardless of the school. Second, some jurisdictions seem to serve the academic needs of less-advantaged students better than others. It is precisely students from less-advantaged backgrounds that need the help of the school to develop their potential. Future research needs to identify the school characteristics that facilitate learning among the less-advantaged students.

3.5 Post-secondary co-op programs

Co-op programs at post-secondary institutions are generally regarded as facilitating school-to-work transitions. Yet only a small minority of students actually participate in such programs. According to the 1995 NGS, only 17% of college and 7% of bachelor's graduates had completed their studies through a co-op program (Clark 1999:13). Although fewer bachelor's than college graduates went through a co-op program, they found it helped their transition to work more: about half of the college and two-thirds of the bachelor's co-op graduates said that their co-op experience was helpful in finding a job after graduation. In a non-representative study of university students, Smith and Snider (1998:41) report that one in every five had participated in a co-op program, and that more than four-fifths felt that this had better equipped them to find a job.[9]

The question arises whether it is specifically the co-op programs that facilitate the transition to work, or whether it is work experience more generally. The answer seems to be that it is work experience generally that facilitates the transition, since even more graduates indicated that

[9] Although this study is based on the responses of more than 2,500 university students, the response rate, at 27%, was unacceptably low. Additionally, the sampling frame was not representative, excluding arts and social science students, for example. Hence the findings reported should be considered suggestive rather than definitive.

previous work experience had been helpful here than reported that their co-op experience had been helpful in finding a job after graduation (Clark 1999:13).

Participants of university undergraduate co-op programs are less likely to be overqualified (by about 15 percentage points) than non-participants, perhaps due to a better matching process between employer needs and prospective worker attributes. This advantage of participation in Co-op programs is evident only at the baccalaureate level (Frenette 2000:8).

3.6 Incentive structures

For those who plan to attend university, the incentives to do well academically while in school are clear and strong. That is not the case for the work-bound, or even those who are considering trade/technical school or community college. To improve the transition experience of those students not bound for university, high school incentive structures need to be improved. This could be done by such things as non-university post-secondary institutions giving preference to better-performing students in those programs that have limited enrolments (i.e., where the student demand for a course exceeds the available supply of positions). As Rosenbaum et al.(1990:268) wryly note, "incentives are easier to change than ability or personality."

4. Labour market experiences

It is well known that education is the single most important route to satisfactory work in all industrialized countries, including Canada (Müller and Shavit 1998). Some of the mechanisms, such as increased skill acquired through education and employer reliance on educational credentials, are well-understood. In Canada, for example, literacy appears to account for over a third of the income returns of education (Green and Riddell 2001:20). At the same time, another study using the identical data set reports the puzzling finding that literacy does not mediate the relationship between education and individual earnings among Canadian women (Osberg 2000). Indeed, it finds that *none* of the income return to women's education is attributable to their greater literacy skills. Future research needs to assess more carefully the reasons and implications of this finding.

4.1 Work expectations

From an early age on, young people want, and expect, to work upon completing their education. There is no evidence of a decline in the work ethic (Lowe et al. 1997). Erikson's (1968) influential depiction of adolescence as a stage in which occupational and gender identities are formulated suggests why work aspirations are so important to young people.

In contrast to earlier times, there is no gender difference in this respect. Some young women anticipate either reducing the amount of time they work with the arrival of children, or temporarily withdrawing from the labour market at that time, but both of these strategies of combining family and work roles are seen as very circumscribed in time (Thiessen 1996).

Despite the relatively high levels of attachment to family and community that characterizes Canadian society, young people express willingness to move to other communities, provinces and even countries in search of work (Lowe et al. 1997). The social policy conclusion to be drawn from this evidence is that young people's desire to participate in the labour market can essentially be taken for granted.

Of course, teenagers may develop unrealistic images of the nature of work. Certainly their occupational aspirations dramatically exceed the type of work they likely will obtain initially. When high expectations are confronted by entry-level early work experiences, is work

commitment curtailed? There is insufficient evidence to answer this question unequivocally, but the available evidence suggests not.

4.1.1 Gender and work values

The overall structure of criteria when selecting a job is quite similar for female and male graduates. That is, the rank order of criteria is not remarkably different for the two genders. Nevertheless, some consistent patterns can be noted. First, women emphasize salary and pay less than do men (see for example Lowe et al. 1997:53; Smith and Snider 1998:38; Clark 1999). Women graduates are also less likely to consider career advancement and job security when selecting a job. There is a greater tendency for women than men to select jobs for enhancement of their skills and abilities, for the opportunity to work with people, and for offering them the kind of work that they like (Lowe et al. 1997:53; Clark 1999:11).

It is often thought that women, to accommodate the demands of family and home life, select jobs that provide for greater flexibility. Out of 11 different job selection factors, job flexibility was the second-least important criteria among both women and men, although women graduates did emphasize it slightly more than men. In a study of university students Smith and Snider (1998:27) found that "an ability to balance work, family, and other interests" ranked fourth out of 33 work criteria, but only 6% rated this as the most important factor (a breakdown by gender is not provided). On the other hand, job location was the second-most important factor for both women and men, and here again women rated it somewhat more important than men. Yet the similarity of values in these respects is more striking than the differences. There is an apparent contradiction in the importance of job location. As noted above, during high school, the majority of students report that they would be willing to move to obtain a job. After graduating from a post-secondary institution, job location is, the second-most important criteria. This apparent contradiction might be reconciled by postulating that for graduates, the question may not be whether they would be willing to move, but to where they might be willing to move.[10]

[10] This explanation would not account for the east-west gradient associated with difficulty in finding a job in the right location. Clark (1999:12) reports: "Newfoundland graduates had the most trouble, with 38% of college and 30% of bachelor's graduates experiencing great difficulty finding a job in the right location. In the other Atlantic provinces, about 24% of college and between 22% and 26% of bachelor's graduates had similar trouble. In contrast, only in Alberta and British Columbia did less than 15% of college and bachelor's graduates report great difficulty finding work in a place where they wanted to live."

4.1.2 Occupational aspirations

Teenagers' occupational aspirations are in line with their educational plans, which, as shown above are appropriately high on average. A cohort analysis of several samples of Canadian youth indicates that high school girls show the greatest increase in occupational aspirations (Andres, Anisef et al. 1999). The same increase is found in the U.S., where studies prior to the seventies "showed that boys have higher achievement orientations than girls; studies in the seventies and eighties indicated no consistent gender difference. More recent research shows that adolescent girls' aspirations often surpass those of boys" (Mortimer 1996:36).

As with educational aspirations, there is some indication that high school serves to level the occupational aspirations to some extent, indicating perhaps a growing realism or awareness of the nature of the labour market. In this respect it is of some importance to note that adolescent girls, at least in the U.S. feel less certain than the boys that they will actually achieve the occupations to which they aspire (Mortimer 1996).

High aspirations may be a two-edged sword. Those without such aspirations are thought to invest little effort to achieving occupational success; those with high aspirations may "give their all" and thereby "lose what they have left of confidence" (Turcotte and Assogba 1996:73).

4.1.3 Uncertainty of teenagers' plans

Youth's occupational expectations are extremely fluid. A longitudinal study of U.S. high school students found that, despite the use of 15 broad occupational categories, between any two successive years the highest level of consistent occupational expectations was 56% (Rindfuss, Cooksey et al. 1999:238). Comparable to the U.S., several features of Canadian society result in a high degree of uncertainty and flexibility in youth's choice of future occupation. As a society we feel the choice should maximize an individual's skills and abilities, which often are not clear until they are young adults. Hence any decisions that might limit occupational choice are to be delayed as long as possible (Lewis 1997). A contributing factor is the rapid changes in the nature of the global economy. Parents may previously have been an important source of information and advice for their children's occupational choice. This is probably one reason why parents today are much less certain about what an appropriate occupation for their children might be

(Human Resources Development Canada 1998:20) and often feel that their children in high school are too young to make a clear commitment to an occupation (Lewis 1997).

Contrary to what one might expect, uncertainty appears to increase rather than decrease in the period immediately following high school (Sharpe 1996:181). One reason may be that high school students appear not to be much involved in career planning (Geller 1996). The implications of this uncertainty, coupled with the lack of concrete planning are that high school students are in need of, and receptive to, guidance in making their plans for the future.

4.2 Job search strategies

Regardless of educational attainment, personal networks appear to be the most frequent and effective job search strategy. In the 1995 NGS cohort, about a third of graduates of both colleges and universities found their first job through friends or family (Clark 1999:11), making this the most successful way of finding a first job. Young people are aware of the importance of such networks. For example, a 1997 survey of university students found that at least half of them felt contacts would to a great or very great extent make it easier to find a job (Smith and Snider 1998:31). This was perceived to be especially important for getting a job in the private sector, with more than three-quarters of the students indicating contacts had a great impact.

About four in five young adult students planned to use their campus career centre when looking for a job (Smith and Snider 1998), but the 1997 NGS shows that few graduates actually found their first job through the help of career counseling (Clark 1999:15).

At least among university students, government employment centres are considered one of the least effective avenues for finding a job, ranking tenth out of eleven job search strategies. Less than half the university students planned to use them, although more French students were inclined to use them to help them find a job (Smith and Snider 1998:7).

Accessing the internet is now a popular job search mechanism. As might be expected, the likelihood of using this job search strategy increases with increased use of the internet for other purposes. Since female university students are still less likely to use the internet routinely (Smith and Snider 1998:), they may also be less likely to avail themselves of this job search channel.

Smith and Snider (1998:8) report that visible minority students differed from the rest of the student body in their job search strategies "only to the extent that they had a higher desire to use school newspapers, campus career centres, job fairs, and government employment centres." This finding may reflect less-developed social networks and mentoring opportunities among visible minority students.

A 1999 Angus Reid survey found that only approximately two-fifths of young people between 16 and 30 years of age have ever used labour market and career information to help them in a job search. This indicates an important possible omission in the curricula of secondary and post-secondary institutions.

4.3 Labour force participation

Labour Force Surveys reveal that there has been a significant decline in youth's participation rates since 1990. Labour force participation rates dropped from a high of 71% in 1989 to a low of 61.4% in 1997; since then it has shown some improvement, averaging almost 64% in the first half of 2000 (Human Resources Development Canada 2000:15). The declines in labour force participation rates apply to youth at all educational levels, but were especially severe among the least educated youth. Between 1990 and 1997 these rates dropped from 45.5% to 30.8% for youth with 0-8 years of education; from 59.1% to 47.4% for those with some high school; from 81.7% to 76.3% for high school completers; from 69.4% to 64% for youth with some postsecondary; from 83.6% to 79.1% for young people holding a postsecondary certificate or diploma; and from 83.3% to 78.7% for university degree holders (see Betcherman, McMullen et al. 1998:Table 32, p. 22). There is no comparable decline between 1980 and 1985, nor between 1985 and 1990. The most likely reason for not observing such declines during the 1980s was the increasing rates of young women's labour force participation during that decade.

Labour force participation interacts with both gender and education; education seems to have a much larger impact on young women's than on young men's labour force participation rates. The 1995 SLF survey (Marquardt 1998: 29) shows that the labour force participation rate of 22-24 year old men is uniformly high, ranging from a low of 91% for high school leavers to 98% for

non-university postgraduates.[11] Thus, among young men, educational attainment makes only a small (7%) difference in their labour force participation rate. Although on average young women are notably less likely than young men to be active in the labour market, this gender gap applies *only* to the less-educated young women. Only 63% of female high school leavers are active in the labour market, compared to 91% of their male counterparts; in contrast, among university graduates young women's labour force participation rates are at least as high as those among young men--97% and 96%, respectively (Marquardt 1998: 29).

4.4 Unemployment

As indicated previously, the youth unemployment rate was especially strongly affected by the economic downturn of the early 1990s. The Labour Force Surveys show that this rate reached a high of 17.1% in 1992, and has progressively declined since then. By 1999 it had declined to 14.0% and during the first half of 2000 to 12.6%. Nevertheless, it remains somewhat above the pre-recession rate. This fact is of some concern, since during the same time period, as documented above, the youth participation rate also dropped significantly. This means that the youth labour force supply was shrinking and should have helped overcome youth employment difficulties. The fact that it didn't led to what has been termed the youth jobless recovery. The prognosis for both the U.S. and the Canadian economy is such that we may soon witness another increase in the youth unemployment rate.

It is well-known that unemployment rates of youth vary by educational levels. There is some tendency for these differences to get larger during times of economic recession, suggesting that youth with lower levels of education are particularly hard hit by recessions.

The Labour Force Surveys also show that young women are less likely to be unemployed than young men. It is not altogether clear why young women have this advantage. Partly it may be that they are more likely to be employed in the service sector; partly it may be that they are less likely to terminate their formal education prior to completing high school. It should be noted that this advantage evaporates among older participants in the labour force, weakening the argument that the advantage is due to being in the expanding service sector.

[11] The much higher labour force participation rates in this study is probably due to the fact that those attending school full time are excluded from the analyses.

It should be noted that a lack of school attachment at age 15 was associated with a 12.7% increase in the probability of experiencing unemployment by the age of 21 in one study, even after controlling for high school completion, skill (reading achievement) and self-reported delinquency (Caspi, Wright et al. 1998:437). Other studies also suggest that attachment to school acts as a buffer against future negative transition outcomes, even among youth who come from relatively disadvantaged backgrounds (Ensminger and Juon 1998). The policy implication is that efforts to improve attachment to school may not only increase the likelihood of school completion, with its subsequent benefits in the labour market, but will also have independent direct positive labour market effects even for those who drop out of high school.

4.4.1 Provincial variations

Taking 1996 as one year, youth unemployment tends to rise from west to east: 15.2% in BC, about 12.5% in the prairie provinces, 15.6% in Ontario, 18.9% in Quebec, approximately 19% in the Maritime provinces, and 29% in Newfoundland.[12]

The patterns associated with youth unemployment rates mirror those of high school leaving, and it may be that these are inter-related in a variety of ways. It is well known that high school leavers are the most vulnerable in today's labour force. It is also well-established, as documented earlier on, that young women are substantially less likely to leave high school than their male counterparts. These two factors might to some extent account for the finding that the unemployment rate of young men generally exceeds those of their female counterparts. It has also been observed that this gender gap in unemployment rates widens during recessions and narrows during expansions (Betcherman and Leckie 1997:11). Since youth with less than high school education are most at risk of being unemployed, it follows that as a group young women are better protected than young men against unemployment during recessions.[13]

A similar line of reasoning can be applied to the provincial variation in youth unemployment rates. Although a variety of factors are likely behind this regional trend, it may be more than a

[12] Statistics Canada, *Labour Force Survey*, 1996.

[13] Betcherman and Leckie (1997:11) suggest that the cyclical variation in the gender unemployment gap is "the greater tendency of young women to withraw from the labour force during recessions. However, examining the trend data to which they refer (covering the labour force participation rates of young men and women from 1980 to 1995), there is no indication that young women were more likely than young men to withdraw during the economic recession of 1990-92.

coincidence that the provincial variations in youth unemployment rates mirror the high school leaving rates and the gender difference by province in high school leaving rates. That is, school leaving rates increase approximately from west to east, and the gender difference in high school leaving rates increase from west to east. Both of these factors in conjunction would to some extent account for the observed west-east increase in youth unemployment rates.

4.4.2 Level of education and full-time work

Comparing just college with bachelor's graduates, the 1997 NGS documents that the class of 1995 has experienced greater difficulty than earlier cohorts in finding full-time work in the first two years following graduation: 70% of college graduates and 66% of bachelor's graduates were working full-time two years after graduating. This is at least six percentage points fewer than for the previous three cohorts (1982, 1986 and 1990 classes). Over one-quarter of both college and bachelor's graduates (28% and 27%, respectively) reported having a great difficulty finding a first job that paid enough.

A persistent difference is that college graduates were more likely to be working full time than bachelor's graduates--between 4% and 9% for the different cohorts (Clark 1999:10).

4.5 Education and quality of first job

Although college grads are at least as successful as bachelor's grads in obtaining a job, about one-quarter fewer of them hold high-level jobs. For the Class of 95, under half (47%) of college grads have a high level job (defined as self-employed and employed professionals, semi-professionals, technicians, and senior and middle managers) compared to almost three-quarters (73%) of those with a university bachelor's degree (Clark 1999:10). In contrast to this advantage of a university education over a college education, college graduates had less difficulty finding a job related to their field of study (Clark 1999:13). It appears that a university education provides for a broader set of work skills that are transferable to areas other than the specific subjects of concentration.

The pattern of youth employment outcomes is consistent with a credentialist view of education. Increasing levels of education over time produces a downward displacement: young people with post-secondary credentials squeeze out high school graduates, who in turn take the jobs that were

once available to high school leavers (Marquardt 1998:79). The overall result is precisely what trends in labour market outcomes show, namely increasing levels of unemployment among high school leavers, and some evidence of an increasing gap between the educational achievement of workers and the educational requirements for their jobs (Livingstone 1999).

4.6 Education and income

The Statistics Canada Consumer Finance Surveys show that real full-year full-time earnings for men aged 20-29 with a post-secondary certificate/diploma actually deteriorated relative to high school graduates from 1995 to 1997. Those with a university degree also declined, but less so, while those of less than high school showed gradual increases from 1994 to 1997. Among women three figures are noteworthy. First, those who have not completed high school experienced greater income disadvantages relative to high school completers than did their male counterparts. Secondly, the earnings of those with a post-secondary diploma/certificate started to deteriorate relative to high school graduates in 1995. By 1997, there was essentially no earnings differential between these two groups. Third, university graduates enjoyed a particularly high income return on their education, earning approximately 50% more than high school graduates between 1989 and 1996. Note however that in 1997 the incomes of women university graduates showed a steep decline relative to high school graduates.

Although the first and third findings above result in a higher income return to education for women compared to men, it is important to note that at all educational levels, men's earnings are substantially higher than women's.

Looking just at the situation in 1997, it seems that completing high school and completing university made particularly big earnings differences for women. Stated differently, women with some post-secondary education did not fare any better than high school graduates. For the young men, increasing levels of education translated to modest earnings increases except for university graduates, where there was a large jump in income.

Evidence on whether the returns to education have been increasing for the Canadian labour force generally is inconsistent. Data from the National Graduates Surveys documents that at all post-secondary educational levels, the median annual earnings two years after graduation is lower (in constant 1997 dollars) for 1995 graduates than it was for 1990 graduates who were working full

time. Comparing 1986 with 1990 graduates, there had been either a slight increase at some levels, or no change (Bouchard 2000:30). However, restricting attention just to youth, it is clear that for them the financial returns to education have increased (Morisette, Miles et al. 1995). An additional benefit is that employment among better-educated young people is less susceptible to economic cycles (Bouchard 2000:29).

4.7 Computers and automated technology

In this section, the use of computer technology at work and opinions about the impact of technology on the quality of work are reviewed. It is not a surprise to read that nine out of every ten Alberta high school students, both male and female, can use computers to do things other than playing games, such as word processing and electronic mail (Lowe et al. 1997:58) and that 100% of Ontario university graduates under the age of 30 possess at least basic computer literacy (Livingstone 1997:100). However, according to the 1994 GSS, employed youth are less likely than older Canadians to use computers at work (32% versus 50%).[14] Here then is a first indication of under-utilization of skills in the early work experience of young people, a topic that will be explored more fully in the next section.

Among youth who used computers at work, only 10% felt their work was "not at all" affected over the past five years by the introduction of computers or automated technology. This feeling that computers had altered their work was shared by their older counterparts, only 7% of whom felt the introduction of computers and automated technology had not affected their work.

In what ways do Canadians feel the introduction of computers has altered their work life? Most youth felt it had increased the level of skill required to perform their work (61%). Older Canadians were even more likely to feel this way (76%). At the same time, it seems that Canadians embrace this change, since about two-thirds felt it made their job more interesting. Again, there is no appreciable age difference in this view. Much the same picture emerges from the Canadian sample of the 1997 International Social Science Program (ISSP) survey. In this survey, about half the youth (and about the same proportion of adults) feel the new technologies

[14] The author calculated all figures cited in this section. For the 1994 GSS, the data was weighted to make it representative of the Canadian population.

will make work more interesting, with only about a third as many (14%) feeling these will make work less interesting.

There is, however, some concern that these new technologies will affect both job opportunities and job security. In the ISSP survey, somewhat more than half the youth (53%) feel new technologies will decrease the number of jobs, with only about a quarter (27%) expecting them to increase the number of jobs. These proportions are similar to those obtained for adults. With respect to job security, the 1994 GSS data indicate that the majority of both youth and older Canadians feel computers and automated technologies did not affect their job security (57% of youth and 63% of older Canadians). Among those who felt it did have an impact, opinion was divided on whether it increased or decreased their job security, with slightly more youth feeling it increased their job security, while slightly more older Canadians felt it decreased their job security.

4.8 The "fit" between education and job requirements: Overqualified workers?

Some concern has been expressed over the extent of the fit between education and the requirements of the job obtained. Krahn and Bowlby (2000) make a distinction between job-program-fit and generic skills fit, with a clear recognition that the former emphasizes credentialism whereas the latter focuses on the value-added nature of post-secondary education. On the basis of the NGS surveys, 60% of 1990 post-secondary graduates were working in a job with a good program-job-fit in 1992. The fit was about 10% to 20% better among Master's and PhD graduates. As is to be expected, the fit was highest in health sciences, engineering, law and medicine, since these programs train their graduates for a specific occupation. Also not surprisingly, less than half of university fine arts, humanities and social sciences graduates felt they had a good fit. However, the two criteria frequently are inconsistent with each other, in terms of likely labour force outcomes. For example, graduates in the arts, who ranked lowest in program-job-fit, ranked the highest in generic skills such as critical thinking and writing, while those in the health sciences, which had the highest program-job-fit, ranked lowest on these skills. Given the rapid change in job requirements, critical thinking and writing skills are likely to be more important in the long run, than immediate education-job match.

The same survey shows that only 40% to 50% of the graduates used their skills to a great extent on the job. With the increased Canadian rates of participation in post-secondary education, an important issue is the extent to which the education of youth exceeds that required by their employers. Recent evidence from the National Graduates Surveys documents that substantial proportions—from 27% to 72%--of graduates from post-secondary institutions hold jobs in which the educational level required by the employer is at least one level less than the incumbent of the job has attained (Frenette 2000: 7). Overqualification is particularly pronounced among holders of a Master's degree. But at the same time, recent graduates of Master's and doctorate programmes are less likely to be overqualified than the 1982 cohort. This suggests that the labour market demand for post-graduate degree holders is growing at a faster rate than the growth in the supply of such. At other levels of education, there is no appreciable difference in current overqualification rates compared to those in 1982.

With such high overqualification rates, one could easily come to the conclusion that the higher the level of education achieved, the more likely it is that one is substantially overqualified. Interestingly, this is not necessarily the case, since "higher-level graduates are less likely to be overqualified by two or more levels than other graduates" (Frenette 2000:9). The high level of overqualification among master's graduates is due to their holding jobs requiring only a baccalaureate.

One might also expect that overqualified workers would not be financially rewarded for their "excess" education. Again, this is not the case, since overqualified workers at any given educational requirement level generally earn more than those not overqualified at that job requirement level. This suggests that employers draw on, and compensate for, the skills that workers bring with them that are not formally requisites for the job.

4.9 Self-employment

Entrepreneurship as a possible and desirable form of employment seems not often to be entertained during high school. Less than one in every five Alberta Grade 12 students mentioned self-employment as their occupational aspiration (Lowe et al. 1997:49). Already at this young age, gender appears to be of substantial significance, with men generally being more attracted than women to entrepreneurship; 17% of male, compared to 9% of female, Grade 12 students

said opportunities for self-employment were very important to them when looking for a full-time job after leaving school (Lowe et al. 1997:51). Further, relatively few young Canadians become entrepreneurs immediately or shortly after completing their education, with less than one in ten being self-employed in the 1995 SLF survey (Marquardt 1998:43). Self-employment was highest among male school leavers, raising the question of the extent to which this is voluntary and the extent to which they are prepared to successfully undertake such ventures.

Women generally are less likely than men to be self-employed. On the basis of the NGS Finnie (1999) reports that in 1995, the self-employment rates for 1990 male and female post-secondary graduates was 11% and 6%, respectively. These self-employment rates were quite constant for the 3 cohorts. They are also somewhat less likely to stay in self-employment. For the 1986 graduates, 38% of the women who were self-employed in 1988 switched to paid-employment by 1991. The comparable figure for the men in this cohort was 31%. This gender difference was less pronounced for the 1990 graduates, where the corresponding figures were 34% and 32%, for women and men graduates, respectively.

Finnie makes the argument that self-employment is voluntary to a large extent. This argument is based on the fact that self-employment rates five years after graduation are higher than they are two years after graduation. He assumes, not unreasonably, that employment opportunities tend to increase with more employment experience. So it follows that five years after graduation the employment opportunities should be greater and therefore self-employment should decrease if it was involuntary. Of course, the ecological correlation fallacy is potentially at work here, as it is whenever aggregate data are used to make micro-level arguments. Also, the fact that substantially more graduates of both genders switch from self-employment to paid employment than vice versa could be used as a counter-argument. It is wisest to conclude that we really don't know how much is voluntary, or whether that is even the right concept to use. Necessity is the mother of invention and self-employment is a form of invention.

The 1997 ISSP data asks a hypothetical question that is relevant here: "Suppose you were working and could choose between different kinds of jobs. Which of the following would you personally choose?" One choice was between being an employee and being self-employed. Surprisingly, just over half (51%) of those aged 18-24 would choose self-employment, with

another 12% stating they couldn't make a choice.[15] The attractiveness of self-employment increases to a high point of 58% among those aged 35-44, and then drops. Corroborating previous studies, young women were substantially less likely than their male counterparts to prefer self-employment (40% versus 62%, respectively).

The reason the above percentages are surprising is that only 10% of young men and 2% of young women currently working in that sample were self-employed. The obvious question is, what are the factors that keep young people from implementing their expressed preference for self-employment? One possibility is that young people may not feel that they possess many of the practical skills, such as book-keeping, financial planning, marketing or preparing time lines that are necessary for entrepreneurship. In the Nova Scotia School-to-Work Transition project, this was notably absent even in the in-class component of their work experience program. In any event, assessment of the reasons for this gap, and possible policy initiatives to overcome them, are potentially fruitful topics for future research.

4.10 Life-long learning

It is now usually taken for granted that in the new economy life-long learning is essential. If the "half life" of occupational skills is shrinking, as is generally thought, then it is essential that public policy provide incentives for retraining and skill upgrading among those who are active in the labour force. What are the factors that encourage a return to education after having spent some time in the labour force? Research on this question is sparse, but it is generally thought that both push and pull factors are involved. Experiences with unemployment and unsatisfactory income from current job are examples of the push factors; ambition and a "taste for learning" are enticements to resume education.

The analogy of a "taste for learning" comes from the finding that the more education a person has, the more they want even more education. The direct policy implication is that attention is best focused on identifying those who are at risk of not acquiring such a taste. Teenagers whose educational experience is unsatisfactory to themselves are unlikely to acquire a taste for learning.

[15] It is unlikely that this high percentage is the result of sampling fluctuations, since the 1989 ISSP data paint a similar picture. They show that on average (among the 9 countries that participated in that year, of which Canada was unfortunately not one) 54% of those under 30 years of age and 47% of those 30 years of age or older, expressed a preference for self-employment. The source of the figures cited in the remainder of this section is the author's analysis of the 1997 ISSP data.

At the high school level, these tend to be youth who see little relevance of their education to their future work. It is here that high-school sponsored work experience programs are particularly relevant. Thiessen and Looker (1999) found that students who had been randomly selected for participation in a school-to-work transition program subsequently thought of their high school experience in much more positive terms than a comparison group who had not participated in this program.

One form of life-long learning is to combine labour force participation with simultaneous part-time enrolment in post-secondary educational programs. Some recent trends in part-time enrolments in universities do not augur well for this form of life-long learning. These rates have been falling since 1992, following a long period of secular increase. The decrease is particularly among those who are 25 years of age or older, suggesting a decline of this type of life-long learning (Bouchard 2000:25). A similar age difference is found with respect to non-completion of university. Chen and Oderkirk (1997), using linked university administrative records for Ontario, report that students who were 25 years of age or older when they entered university in the early 1980s were twice as likely to have left by 1993 than were those who were under 25.

It seems obvious that those who re-enter formal education after participation in the labour force for some time will be financially rewarded with higher subsequent incomes. Yet, insufficient data has been collected to date to definitively assess whether there are compensating monetary returns. The evidence that exists is somewhat surprising. In a longitudinal study of the "class of '73" in Ontario, Anisef et al. (2000:155) examined current (1994) income by educational level and, at each educational level, whether the respondent had participated in formal further education after 1979. The surprising finding was that only at the lowest educational level (high school graduation) did further education pay off financially. The authors suggest that this may be a selection effect: it may be precisely those who are experiencing difficulties in the labour market who decide to return to schooling. To appropriately assess the returns to life-long learning requires a comparison of the labour market outcomes before and after further formal education.

5. Directions for future social research and social policy

The recent literature reviewed in this report has implications both for possible future research and for emerging social policy. Some of the trends documented in this report—such as youth's increasing levels of education and facility with computers—augers well for their future labour market outcomes. Others, including the tenuous recovery of the youth labour market and their declining financial fortunes, are cause for concern. Although youth is celebrated for its resiliency, an earlier exuberance and optimism is being swallowed by a more guarded appraisal of their future. An Angus Reid poll conducted in 1989 reported that 65% of Canadians aged 18 to 34 believed they would eventually be better off financially than their parents. A second poll, conducted just six years later, showed such optimism to have plummeted to 29% (these figures are quoted in Marquardt 1998:6). Clearly, this is an appropriate time to take stock of the emerging research questions and possible policy initiatives. Some important school-work policy research implications of the developmental psychology, life course, and capitalization perspectives are sketched first, followed by highlighting the emerging research and policy questions.

5.1 Some key findings and policy research implications

5.1.1 Gender and occupational aspirations

Occupational aspirations are likely to have firm roots in gender identity dynamics. From at least adolescence onward, young women and men will typically not aspire to occupations that are sex-typed for the opposite sex. This means that traditional occupations in the trades will likely continue to have a gender imbalance. These are occupations that are both working class and male. Rather than attempting to encourage young people to enter gender atypical occupations, it would probably make more sense to ensure that the emerging occupations in the knowledge industries do not become gender typed. The evidence suggests that computer literacy is reasonably equally distributed between the genders, although males dominate computer science and software development. It is nevertheless of course crucial that opportunities to train and practice in gender atypical occupations be maintained.

5.1.2 Adult status

Becoming recognized as an adult is increasingly tenuous. Some of the usual markers of adulthood are currently more difficult to attain (financial independence, full-time work); others are being delayed (leaving the parental home; marriage); and the early experience of still others (parenthood) have particularly severe consequences for successful transitions into the labour market, especially for women. In their last year of officially being a "youth" (age 24), one Canadian study notes that about one-fifth of them had not ever held a full-time job, and less than half had completed their education (Thiessen and Looker 1999:58). Over time sexual maturity is occurring at younger ages, and at the same time appropriate adult roles are being delayed.

5.1.3 Risk-taking

The lengthened period of time between sexual maturity and full attainment of adult status is a time of heightened risk-taking, whether in the form of experimenting with illicit behaviours and drugs, or of making poor life course decisions. It is particularly when the link between present decisions and future outcomes is tenuous or uncertain, that youth make what appear to be non-optimal decisions (Gardner 1993).

5.1.4 Life course transitions

The timing, sequencing, duration, and rate of recurrence of various life course transitions fundamentally affects future labour market outcomes, and many of these are configured quite differently for young men and women (Andres 1999). For example, by the age of 24, women were significantly more likely than men to have left the parental home, to have married, and become a parent, homemaker and/or a full-time child caretaker (Thiessen and Looker 1999:58). Despite increasing diversity, for most transitions there is a clear norm and a preferred or expected order. Thiessen and Looker (1999:53) report that upwards of four out of every five male teenagers in their study would feel bothered by out-of-sequence transitions such as getting married before completing their education, getting married before holding a full-time job, or becoming a parent before getting married. The majority of their female counterparts felt the same way, although not as strongly, and this is perhaps one of the reasons women are more likely than men to experience such out-of-sequence transitions. Some out-of-sequence transitions are likely to have particularly severe consequences for future labour market outcomes.

5.1.5 Integration into school and community

Integration of young people and their parents into school and community activities and the establishment of active school and community organizations plays a significant role both in preventing poor school-work transitions and in mitigating the negative effects of certain events, such as residential moves that involve changing schools (Hagan, MacMillan et al. 1996; Pribesh and Downey 1999; Sun 1999). Increasing the stock of community social capital appears to facilitate school-work transitions.

5.2 Research directions

5.2.1 Necessity of longitudinal data

Many of the questions that remain unanswered, especially in the Canadian context, require longitudinal data, not only to control for selection effects, but also to obtain more sensitive measures for some of the transition outcomes. For example, Caspi et al. (1998) found that current employment status was unrelated to most explanatory factors; only by measuring "ever unemployed" and duration of unemployment over a several-year period could the expected effects be uncovered.

Despite a multitude of school-work transition initiatives in many countries, and a moderate number of research efforts aimed at assessing some of them, there is a dearth of knowledge about the effects of various initiatives and programs. A major reason for this state of affairs is that insufficient effort has gone into collecting the appropriate necessary information. At a minimum, longitudinal data are required (Hiebert and Thomlinson 1996); to distinguish adequately between selection and program effects, it is also necessary to employ an experimental design, or some variation of such a design, as was done in the Nova Scotia School-to-Work Transition Program (Thiessen and Looker 1999).

5.2.2 Capturing contextual effects

There is a need for research that permits greater emphasis on contextual effects. Two contexts are especially warranted with respect to educational outcomes and transitions. These are school effects and community effects. Research using multi-level multivariate techniques (such as hierarchical linear modeling) has made promising advances in our understanding of structural impediments and/or facilitators in school-work transitions. Such analyses are crucial to

understanding how school and community resources can benefit *all* young people rather than just those who come from advantaged families. Including contextual effects should help identify those community and school characteristics that facilitate learning among youth who typically have poor educational outcomes.

To effectively capture contextual effects requires two developments. First, quality databases of school and community characteristics need to be created and maintained. Information on aggregate community characteristics, such as median income, percentage of adults with a university degree, percentage of single-parent families, percentage of adults receiving welfare benefits, percentage moving into or out of the community (or other measures of residential mobility) needs to be assembled.

Although this is a huge undertaking, it is manageable if done incrementally. Initially information could be limited to those communities that are heavily represented (say 15 respondents or more) in ongoing or planned future youth transition surveys. For these communities, relevant information can be aggregated from the micro-level surveys and transferred to the community-level database. Statistics Canada census and other data sources can also be used to obtain independent community-level information.

For school-work transition purposes, school-level data is also required. The sampling and study design of the adolescent component of the *Youth in Transition Survey* is well suited for creating and assessing school-level effects.

The second requirement is that information on community of residence in the micro-level surveys is coded in such a way that it can be conveniently linked to the aggregate-level data.

5.2.3 Transition to jobs beyond entry-level jobs

Recent research convincingly documents that transitions are taking longer. Information on transitions beyond entry-level jobs is especially scarce. On top of that, the literature reviewed here indicates that transition to a "quality" job is of particular significance. Transitions to such jobs often do not occur until the late 20s, and even later. This has two implications for future research. First, more conceptual and measurement clarity is required for defining the components of a quality job. Should it include the match between skills obtained and skills used? Should all

forms of non-standard employment relations be excluded from definitions of a quality job? How are the different possible components of a quality job interrelated, and how are prior educational outcomes related to these components?

Second, and perhaps more importantly, longitudinal school-work transition studies need to be extended beyond the traditional upper end of current definitions of youth (age 24). At the minimum, it would be worthwhile to extend the upper age limit to 29.

5.2.4 Financial considerations in post-secondary educational participation

Although the parental socio-economic gap in participation rates in post-secondary education is currently widening, and although this is often attributed to the inability of young people from less advantaged backgrounds to afford higher education, little is known how financial considerations actually affect young people's decision on whether to participate, and if so, in what types of post-secondary institutions (trade or technical schools, community colleges, universities). Under what financial and other conditions would a graduating high school student, for example, switch planning to enroll in a university to enrolling in a trade school or community college? How much, and how accurate, is the information young people have about the cost of various available post-secondary options? The evidence reviewed in this report strongly suggests that post-secondary plans are far more complex than what might be expected on the basis of rational economic choice.

5.2.5 Forms and levels of social capital

Research on the role of individual, familial, school, and community social capital on a variety of educational outcomes has produced consistent findings. Most of this research has limited the measurement of social capital effects on junior and senior high school educational outcomes. The promising findings might fruitfully be extended to both post-secondary education and labour market outcomes. Are young people from a disadvantaged household but residing in "enabling" communities more likely to pursue post-secondary education than similarly disadvantaged youth living in communities possessing limited social capital? Vice versa, are academically qualified young people less likely to pursue post-secondary education if they reside in a community with underdeveloped social capital than if they reside in a community well-endowed with active social organizations? Is life-long learning more likely when individual and community social

capital is high? These and other important questions could be addressed with data that includes more careful attention to forms and levels of social capital at the individual, familial, school and community levels.

5.2.6 Life-long learning

The recent decline in Canadians' participation in part-time post-secondary education documented in this report was not expected, nor are the reasons for it understood. In light of the rapid change in the nature of work organization and technological innovations affecting work, this decline is also an unwelcome trend. Future research needs to carefully explore the reasons and dynamics in the decision not to participate, and not planning to participate, in part-time education among those who have been active in the labour force for some time. Obversely, the conditions and reasons for past or current participation in part-time education need to be better understood. Once these are understood, appropriate social policies might be implemented to facilitate life-long learning. Since the research focus has been on formal education, our understanding of the conditions facilitating informal or non-formal training as a component of life-long learning—as well as their effects—is rudimentary.

5.2.7 Aboriginal and other youth of visible minority status

It is clear from this review that Canadians of Aboriginal status are particularly at risk of making poor educational choices and subsequently experiencing difficulties in their school-work transitions. Canadian youth surveys are hampered by insufficient numbers of cases to adequately assess the dynamics of educational decisions among aboriginal and other visible minority youth. This could be rectified by oversampling youth from such groups, or by conducting special surveys designed specifically to compare the school-work transition processes of various ethnic/racial groups in Canada, a point which is elaborated next.

5.2.8 Special topics surveys

The survey design for collecting data necessary for monitoring social trends is quite different from that required to increase our understanding of school-work transition difficulties. The design for monitoring social trends must of necessity be representative of Canadian youth. Overrepresentation of certain groups, such as Aboriginals or those living in rural areas, can of course be part of the design if appropriate sampling weights are used. However, the literature

review conducted here indicates that a wide array of factors is implicated in difficult school-work transitions. These factors characterize relatively smali proportions of young people. For example, few young people experience parenthood prior to completing high school. Among those few who do, only a minority appear to successfully overcome this barrier to make optimum future transitions into the labour market. To adequately assess what factors facilitated good transitions for this subgroup would require substantially more such cases than would be available from any social trend survey, such as the Youth in Transition surveys. The same problem emerges for any out-of-sequence transition, since the "normative" sequence is still clearly the modal sequence; the modal sequences still seem to produce the best future labour market outcomes; and the successful transcendence of the negative outcomes associated with any of the other sequences is still relatively rare. Since the effects of normative sequences are well-understood, the sampling proportions should be just the reverse from what one would obtain from social trend surveys: small proportions coming from relatively advantaged family backgrounds having university degree aspirations, and large proportions drawn from those at risk of not completing high school, and among them, a relatively even distribution of those who nevertheless completed high school and those who didn't. A longitudinal analysis of even one such sample would make a sizable contribution to our understanding of the mitigating conditions of adverse constraints on successful school-work transitions.

5.2.9 Private educational/training institutes

It is well known that a plethora of private education/training institutes have sprung up in Canada in recent times. Many of them focus on training for the information economy. We need to know more about who is attracted to these, and how enrolment in them affects subsequent labour market outcomes.

5.3 Social policy issues

5.3.1 Importance of early outcomes

Of particular importance to policy considerations is the consistent findings that early outcomes have a cumulative effect. As shown in this review, early negative educational and labour market outcomes produce progressively severe deteriorations; conversely, early positive experiences produce spiralling advantages (Kerckhoff 1993). Some of the reasons for the cumulative effect

are clear. For example, those who pursue a university education are likely to find jobs where the employer invests in their continued upgrading of skills, thereby promoting life-long learning (Betcherman, McMullen et al. 1998:42). The principle for social policy is that intervention needs to be timely, before negative accumulation has occurred, and to capitalize on the positive spiral. This is in line with the current emphasis on children in Canadian social policy. At that same time, it must not be forgotten that the educational, economic, social, and cultural resources of the parental home and the surrounding community forms the climate in which children grow up. It is not yet clear what the proper mix of social policies might be that address the family and the community versus the children and the youth.

5.3.2 Importance of "second chance" policies

Equality of opportunity to access education and training is a main cornerstone of school-work pathways in Canadian society. One important feature of this principle is the "second chance" nature of such access. This feature has been reasonably effective in permitting an ever-increasing proportion of young people to participate in post-secondary education and training. It has, for example, permitted about 25% of young high school leavers to return to high school at a later time to obtain their high school completion certificate. However, in light of the diverse array of young adults' transition sequences, policy measures for the future could fruitfully explore ways of strengthening the second chance feature. Permitting high school leavers to return to high school after the age of 21 without financial penalty is one specific policy initiative that might be considered. At the present time this is not possible in some provinces. Of course, removing the financial penalty would need to be carefully weighed against the possibility that this would remove students' incentive to stay in school in the first place. The financial costs of such a proposal would also need to be assessed.

These second chance policies are especially important for those subgroups that have "non-traditional" transition sequences, such as those who have experienced parenthood prior to completing high school. Making it easier for such groups to access educational opportunities would be one way to help reverse the deteriorating labour market outcomes for those with inadequate education.

A necessary component of second chance policies is the creation of supportive structures that minimize the occurrence and the long-term impact of out-of-sequence transitions such as parenthood prior to completing one's education. In England, one controversial initiative is the free dissemination in school of "morning after" contraceptive control. Provision of child-care arrangements, or additional financial support for day care arrangements for parents who wish to further their education on a full-time basis are possibly warranted.

5.3.3 Bridging and laddering programs

It is clear that the concentration on academic success in high schools is not serving the needs of all students. Alternate pathways need to be devised, which permit some students to combine work experience with education. Links to and between various technical and vocational programs, community college and university need to be developed more. Some steps in this direction have been taken in some provinces, such as British Columbia and Alberta (Andres and Krahn 1999).

5.3.4 Training programs

Government has a role to encourage occupational skill development through training opportunities. These opportunities should be directed especially at youth with little human capital, since, as Betcherman et al. (1998:40) document, those with little education, low tenure, and part-time employees are unlikely to obtain employer-sponsored training. These factors are used by employers as indicators of the likely return they can expect if they invest in the training of their employees. Further, the 1993 Adult Education and Training Survey showed that young people (aged 17-24) in the working population are the most likely to participate in training programs that are not sponsored by the employer (Betcherman, McMullen et al. 1998:40). These findings argue in favour of government funding training opportunities for young people who are neither students nor in the labour market. The proliferation of private training institutes in the past decade makes it possible to consider these institutes, rather than employers, as the vehicle for occupational skill development.

5.3.5 Brain drain

Some concern has been expressed about the number of college and university graduates who move to the United States shortly after graduating. Although the number who do so is quite

small--1.5% of the 300,000 1995 Canadian graduands were living in the US in the summer of 1997--(Frank and Bélair 2000:23), they tend to be among the academically top performers. About 44% of movers had been in the top 10% (self-reported) in their graduating class (Frank and Bélair 2000:23). The primary reason for moving was to get a good job and they were more successful in that respect, since their salaries were higher, and their jobs were more closely related to their education. Part of the difference in salary is likely due to the fact that the movers were higher performers academically. The difference in job-education match is partly attributable to the fields in which they had obtained their education. Movers were concentrated in the health-related fields, such as nursing, which at that point in time were being down-sized in Canada. It should also be pointed out that little evidence exists that US firms had aggressively recruited the movers, since most had obtained their jobs on their own initiative. In short, the main concern for policy is that the better graduates seem to be the ones who are attracted to the US.

5.3.6 Youth entrepreneurship

This review uncovered a glaring gap between the proportion of young people who say they would prefer to be self-employed and the proportion who actually become self-employed. Assuming that efforts to become self-employed are to be encouraged, the policy question becomes, "what are the barriers to youth implementing their expressed desire for self-employment?" Little systematic information exists on this topic.

One possibility that might be worth exploring is for high schools to decrease their emphasis on actual work experience to focus more on the knowledge and skills required for successful entrepreneurship. Several considerations support such a change in emphasis.

First, most high school students obtain work experience on their own; indeed some are already working too many hours, jeopardizing the success of future labour market transitions. It is yet to be shown that additional school-sponsored work experience improves school-work transitions.

Second, as documented in this report, it is precisely students at risk of leaving school who are most likely to subsequently engage in self-employment ventures. Hence this is precisely the group that could benefit from well-designed exposure to information and opportunities to develop the skills required to successfully start a business. It is worth noting that self-

employment seems to work well primarily among highly-educated, prime-age workers (OECD 1996). This finding reinforces the conclusion that entrepreneurial information and skills need to be learned at an earlier age, such as during high school.

Third, the entrepreneurial skills are potentially relevant to all youth, since they are of the more generic kind. Knowing how to make realistic budgets and business plans, calculate taxes, fill out applications and other forms, accessing information for marketing and other purposes etc., are also life skills, some of which would benefit those who plan to participate in post-secondary institutions.

Currently a number of programs aimed at promoting youth entrepreneurship exist in Canada, such as the Centre for Entrepreneurship Education and Development in Nova Scotia. Linking the resources and expertise of such institutions to high school programs might be an effective approach.

6. Conclusion

One of the lessons from previous research on school-work transition interventions is that they do not work when the economy is not robust. In this context Juteau (2000:S103) is correct in stating "a limited focus on the relationship between education and job mismatch and on more training is inadequate. The solution consists, rather, in fostering a collective strategy for economic growth on the one hand, and in the equitable distribution of work and employment relationships on the other."

A persistent underlying theme in the recent literature reviewed here is that the *quality* of youth's work experience is ultimately of far greater significance than the mere opportunity to work. This has far-reaching consequences for the nature of possible future policy initiatives. In the words of Lowe (2000: 106): "The main policy initiatives have focused on creating more entry-level employment opportunities or promoting self-employment (to address high youth unemployment), raising the high school completion rate (so that dropouts will not become a social problem), and increasing the work relevance of school programs (on the assumption that this is inadequate). Far too little attention has been devoted to the quality of work that the next generation of workers will experience. … The litmus test for a knowledge-based, high-skill economy is how well employers recruit and utilize recent graduates, providing opportunities for ongoing skill and knowledge development."

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